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Author(s): Hanson, Todd

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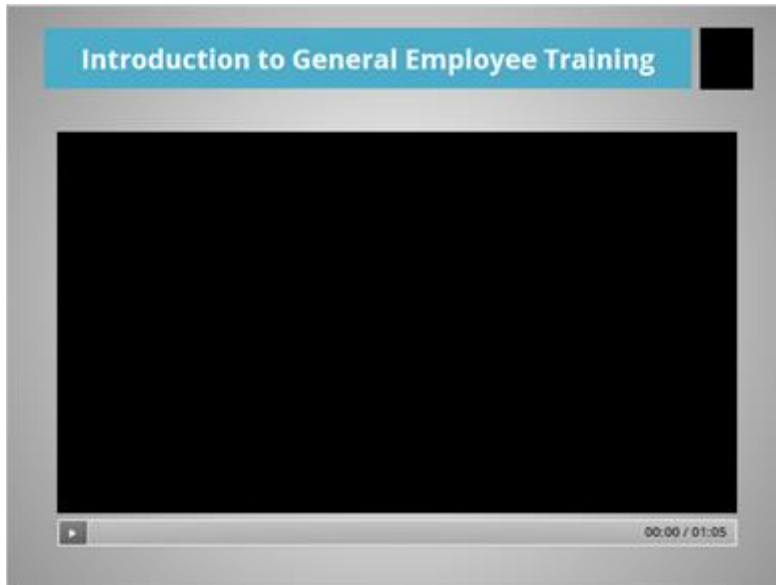
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Module One

1. LANL

1.1 Introduction



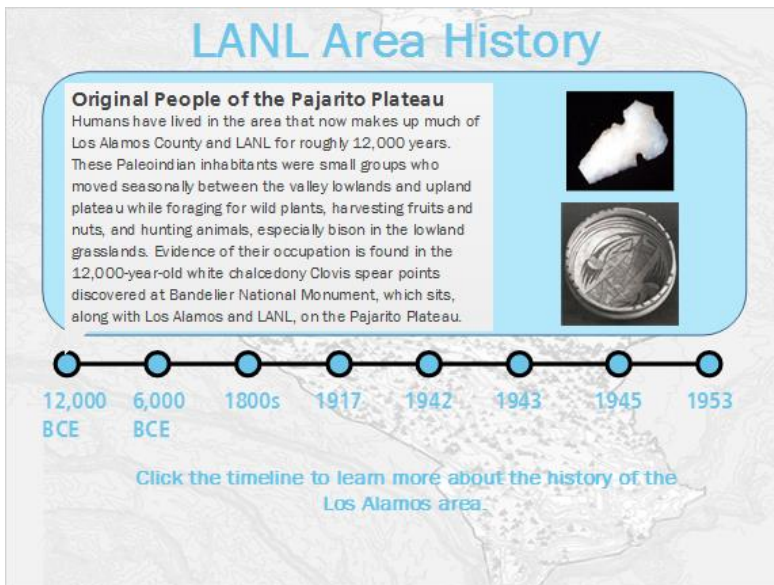
Notes:

1.2 History



Notes:



12,000BCE (Slide Layer)



6000 BCE (Slide Layer)

LANL Area History

Archaic Period (6000 to 500 BCE)
The visitors became permanent residents, shifting their residences to the uplands where they continued to forage, often collecting piñon nuts and hunting deer, rather than hunting bison. By the late-12th to mid-16th century villages on the Pajarito Plateau flourished with the Native Americans where their people hunted wild game and raised maize, squash, beans, and even domesticated turkeys.





Click the timeline to learn more about the history of the Los Alamos area.

1800s (Slide Layer)

LANL Area History

Spanish Homesteaders
In the latter part of the 19th century, the descendants of Spanish settlers used the Los Alamos area for summer grazing of sheep and seasonal bean farming. Permanent homesteads were established not long thereafter.

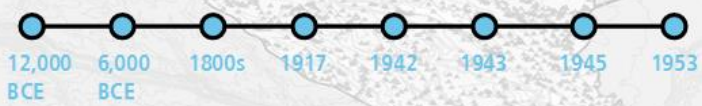



Click the timeline to learn more about the history of the Los Alamos area.

1942 (Slide Layer)

LANL Area History

The Manhattan Project
In the fall of 1942, the US government initiated the Manhattan Project, a secret World War II effort to create the world's first nuclear weapon. General Leslie Groves was appointed to oversee the wartime project. J. Robert Oppenheimer, a professor of physics at the University of California-Berkeley, was selected to lead the scientific endeavor.





12,000 BCE 6,000 BCE 1800s 1917 1942 1943 1945 1953

[Click the timeline to learn more about the history of the Los Alamos area.](#)

1943 (Slide Layer)

LANL Area History

The Manhattan Project continued
The Laboratory was established in 1943 as Site Y of the Manhattan Project for a single purpose: to design and build an atomic bomb. It took 20 months of intense work in the fields of nuclear physics, high explosives, and electrical engineering until, on July 16, 1945, the world's first atomic bomb was detonated at Trinity Site on the Alamogordo bombing range. Three weeks later, Little Boy, a uranium gun-type weapon, was used on Hiroshima, Japan, and Fat Man, an implosion plutonium bomb, was dropped on Nagasaki. One week later the Japanese Empire surrendered, ending one of the bloodiest conflicts in modern history.



12,000 BCE 6,000 BCE 1800s 1917 1942 1943 1945 1953

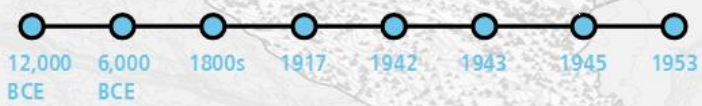

[Click the timeline to learn more about the history of the Los Alamos area.](#)

1945 (Slide Layer)

The Cold War

Following the success of the Manhattan Project and the end of the war, Oppenheimer and many of the others who had been recruited Site Y personnel went back to their respective academic and research institutions. However, a core group of scientists and technicians stayed to carry on the work. They would push the success of the Laboratory to even greater heights.

Norris Bradbury replaced Oppenheimer as director of the Laboratory in 1945. Bradbury had directed the testing of the device at Trinity and acknowledged a duty to continue the work begun at Los Alamos during the war. Upon taking over, he commented, "I feel that the bear which we have caught by the tail is so formidable that there is a strong obligation upon us to find out how to let go or hang on."

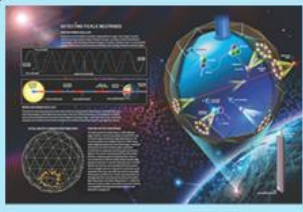


12,000 BCE 6,000 BCE 1800s 1917 1942 1943 1945 1953

[Click the timeline to learn more about the history of the Los Alamos area.](#)


1953 (Slide Layer)

LANL Area History



Cold War continued

If the Manhattan Project made Los Alamos science famous, it was the Laboratory's Cold War scientific work that made it a global science powerhouse. From the development of the hydrogen bomb in 1952 to the discovery of neutrinos in 1953, as well as the hundreds of breakthroughs in the fields of astrophysics, biology, computing, electronics, energy, explosives, geology, materials science, physics, and radiochemistry, Los Alamos science helped the United States (US) win the Cold War.



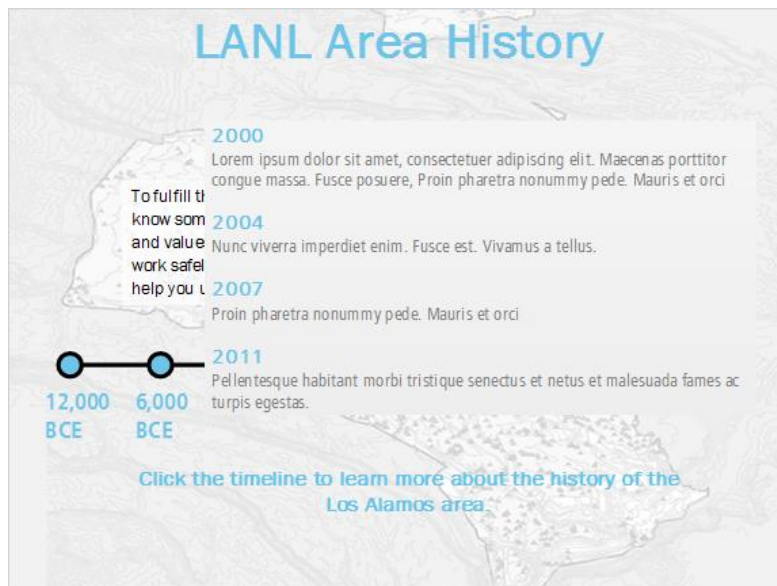
12,000 BCE 6,000 BCE 1800s 1917 1942 1943 1945 1953

[Click the timeline to learn more about the history of the Los Alamos area.](#)

1990s (Slide Layer)



2000s (Slide Layer)





1917 (Slide Layer)

LANI Area History

The Los Alamos Ranch School

For 25 years, starting in 1917, the Los Alamos Ranch School was an exclusive prep school for boys ages 12 to 18. Founded by Ashley Pond, the Ranch School combined a wilderness experience of hiking, skiing, and horseback riding with a rigorous academic program, all under the structured discipline of a Boy Scout troop. Coveted for its impregnable, secluded location, the School was taken over by the Federal government under the right of eminent domain in November 1942, leaving the school's last cohort to graduate in January 1943. Several buildings of the Ranch School still remain in Los Alamos's downtown area. Fuller Lodge was the dining and recreation building. The houses north of Fuller Lodge, along a short street called Bath tub Row, housed school staff and provided some of the classroom space.




Click the timeline to learn more about the history of the Los Alamos area.

1.3 Directors

Laboratory Directors

Since its founding, the Laboratory has had 10 Directors. Click on the oval next to each director on the left side of the screen to discover additional facts.




- J. Robert Oppenheimer (1943-1945)
- Norris Bradbury (1945-1970)
- Harold M. Agnew (1970-1979)
- Donald M. Kerr (1979-1985)
- Siegfried S. Hecker (1985-1997)
- John C. Browne (1997-2003)
- G. Peter Nanos (2003-2005)
- Robert Kuckuck (2005-2006)
- Michael R. Anastasio (2006-2011)
- Charles McMillan (2011-present)


oppie (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>J. Robert Oppenheimer (1943-1945) The Laboratory's first Director, Oppenheimer was a professor of physics at the University of California, Berkeley before being recruited by General Leslie Groves Jr. to oversee the construction of the Los Alamos laboratory of the Manhattan Project and lead the scientific development of the atomic bomb. Dr. Oppenheimer received his Bachelor's degree from Harvard University in 1925 and Ph.D. from University of Göttingen (Germany) in 1927.</p>
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bradbury (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>Norris Bradbury (1945-1970) Born in California and a graduate of Pomona College, Bradbury received his doctorate in physics and mathematics from the University of California at Berkeley in 1932. While working as a professor at Stanford University, Dr. Bradbury was called into active duty in World War II to serve at the Naval Proving Ground in Virginia. Sent to Los Alamos in 1944 to help assemble the high-explosive parts for the atomic bomb, Bradbury took over leadership of the Laboratory from Oppenheimer in 1945 and is widely credited with growing Los Alamos Scientific Laboratory into the world's leading national security science laboratory.</p>
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agnew (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>Harold M. Agnew (1970-1979)</p> <p>As the Laboratory's third Director, Harold Agnew managed the Laboratory through some of its most challenging times. He was educated at the University of Denver and received his Master's and Ph.D. degrees from the University of Chicago, where he worked with Enrico Fermi and others to build the world's first nuclear reactor. Before becoming Director, Dr. Agnew served as a Democratic New Mexico State Senator from 1955 to 1961 and as Scientific Adviser to the NATO Supreme Allied Commander Europe.</p>
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kerr (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>Donald M. Kerr (1979-1985)</p> <p>Serving as the fourth Laboratory Director, Donald Kerr received his bachelor's degree in electrical engineering, M.S. in microwave electronics, and Ph.D. in plasma physics and microwave electronics from Cornell University. After serving as Director, Dr. Kerr went on to serve as Deputy Assistant Secretary and Acting Assistant Secretary for Defense Programs at the Department of Energy, Assistant Director of the Federal Bureau of Investigation, and Deputy Director for Science and Technology at the Central Intelligence Agency.</p>
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hecker (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>Siegfried S. Hecker (1985-1997) As Laboratory Director from 1985 through 1997, Sig Hecker was one of the principal architects of the Laboratory's science-based stockpile stewardship approach to America's nuclear weapons arsenal. Dr. Hecker received his B.S., M.S., and Ph.D. in Metallurgy from Case Western Reserve University. Before joining Los Alamos National Laboratory, he was a senior research metallurgist at General Motors. After serving as Laboratory Director, Hecker went on to become the Director of the Center for International Security and Cooperation at Stanford University and a senior fellow at the Freeman Spogli Institute for International Studies.</p>
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brown (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>John C. Browne (1997-2003) As the Laboratory's sixth Director, John Browne strengthened the Laboratory's science-based stockpile stewardship program and grew counter terrorism and intelligence research programs, all while leading the organization through some of its most politically challenging years. Dr. Browne received his B.S. in Physics from Drexel University in Philadelphia and his Ph.D. in Physics from Duke University. Before serving as Laboratory Director, Browne served as the Physics Division Leader and Los Alamos Neutron Science Center (LANSCE) Division Leader.</p>
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nanos (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>G. Peter Nanos (2003-2005)</p> <p>George Peter Nanos was Director of Los Alamos National Laboratory from 2003 through 2005. A former United States Navy vice admiral, Dr. Nanos received his bachelor's degree from the United States Naval Academy and his doctorate in physics from Princeton University. Before coming to Los Alamos, Nanos was Commander, Naval Sea Systems Command. Following his service as Laboratory Director, Nanos went on to become Associate Director of Research and Development at the Defense Threat Reduction Agency.</p>
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kuckuck (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>Robert Kuckuck (2005-2006)</p> <p>Robert Kuckuck received his B.S. degree in physics from West Liberty University, M.Sc. in physics from The Ohio State University, and Ph.D. in physics/applied science from the University of California. Kuckuck spent the majority of his professional career as a physicist at Lawrence Livermore National Laboratory, including serving as the Deputy Director of the Laboratory. Before serving as LANL Laboratory Director, Kuckuck was the first principal deputy administrator of the National Nuclear Security Administration.</p>
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anastasio (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>Michael R. Anastasio (2006-2011)</p> <p>Michael Anastasio was Director of Los Alamos National Laboratory and President of Los Alamos National Security from 2006 to 2011. Before becoming Laboratory Director, Anastasio was the Director of Lawrence Livermore National Laboratory. He received his B.A. in Physics, with Honors, from Johns Hopkins University and his M.A. and Ph.D. in Theoretical Nuclear Physics from the State University of New York, Stony Brook.</p>
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McMillan (Slide Layer)

<ul style="list-style-type: none">J. Robert Oppenheimer (1943-1945)Norris Bradbury (1945-1970)Harold M. Agnew (1970-1979)Donald M. Kerr (1979-1985)Siegfried S. Hecker (1985-1997)John C. Browne (1997-2003)G. Peter Nanos (2003-2005)Robert Kuckuck (2005-2006)Michael R. Anastasio (2006-2011)Charles McMillan (2011-present)	 <p>Charles McMillan (2011-present)</p> <p>As the current Director of Los Alamos National Laboratory and President of Los Alamos National Security, Dr. McMillan served as the Principal Associate Director for Weapons Programs before becoming Laboratory Director. He holds a doctorate in physics from the Massachusetts Institute of Technology and a bachelor's degree in mathematics and physics from Washington Adventist University.</p>
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1.4 LANL Organizational Structure

LANL Organizational Structure

LANL is a federally funded research and development center under the Department of Energy's (DOE's) National Nuclear Security Administration (NNSA).

The Laboratory is currently operated under contract to the NNSA by Los Alamos National Security, LLC, or LANS, which comprise four organizations (The University of California; Bechtel National, Inc.; The Babcock and Wilcox Company; and URS Corporation) working in a partnership to support the delivery of LANL's national security science mission.

A woman with short brown hair, wearing a light-colored short-sleeved button-down shirt, is standing and pointing her right arm upwards towards the text box containing the description of the laboratory's mission.

1.5 LANL Organizational Structure

LANL Organizational Structure

The LANL workforce is led by a senior leadership team, which includes the Laboratory director, deputy director, executive director, five principal associate directors (PADs), a number of associate directors (ADs), and key functional leaders. Under a given AD directorate are divisions and programs. Under these divisions are groups, and most of these groups have one or more teams.

Los Alamos National Laboratory

Institutional Leaders

- David Peterson**, Laboratory Director
- Charlie McMillan**, Deputy Laboratory Director
- Richard (Rick) Kavich**, Deputy Laboratory Director
- Dore Lyons**, Executive Director
- Randy Erickson**, Associate Director, Environmental Management

Principal Associate Directors (PADs)

- Alan Bishop**, Principal Associate Director, Science, Technology & Engineering
- Bob Whelton**, Principal Associate Director, Weapons Programs
- Terry Wallace**, Principal Associate Director, Global Security
- Craig Garavito**, Principal Associate Director, Operations & Business
- Larry Simonsen**, Principal Associate Director, Capital Projects

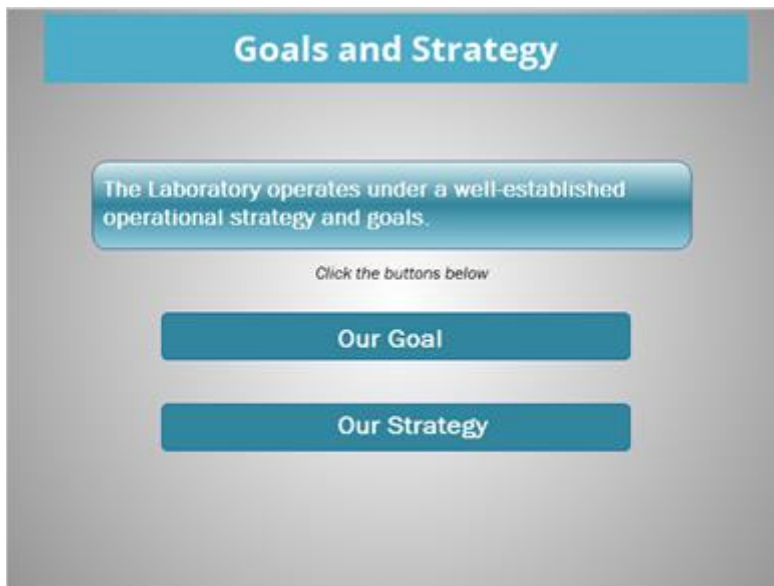
Associate Directors (ADs)

- David Peterson**, Deputy Laboratory Director
- Charlie McMillan**, Deputy Laboratory Director
- Richard (Rick) Kavich**, Deputy Laboratory Director
- Dore Lyons**, Executive Director
- Randy Erickson**, Associate Director, Environmental Management

Divisions and Programs

- Director's Office**
- Executive Office**
- Office of the Laboratory Director**
- Office of the Deputy Laboratory Director**
- Office of the Executive Director**
- Office of the Principal Associate Director for Science, Technology & Engineering**
- Office of the Principal Associate Director for Weapons Programs**
- Office of the Principal Associate Director for Global Security**
- Office of the Principal Associate Director for Operations & Business**
- Office of the Principal Associate Director for Capital Projects**
- Office of the Principal Associate Director for Environmental Management**
- Office of the Principal Associate Director for International and Public Affairs**
- Office of the Principal Associate Director for Human Resources**
- Office of the Principal Associate Director for Information Technology**
- Office of the Principal Associate Director for Legal and Compliance**
- Office of the Principal Associate Director for Safety and Health**
- Office of the Principal Associate Director for Security**
- Office of the Principal Associate Director for Training and Education**
- Office of the Principal Associate Director for Facilities and Infrastructure**
- Office of the Principal Associate Director for Financial Management**
- Office of the Principal Associate Director for Procurement**
- Office of the Principal Associate Director for Quality Management**
- Office of the Principal Associate Director for Risk Management**
- Office of the Principal Associate Director for Sustainability**
- Office of the Principal Associate Director for Community and Public Affairs**
- Office of the Principal Associate Director for Government and Public Affairs**
- Office of the Principal Associate Director for International and Public Affairs**
- Office of the Principal Associate Director for Human Resources**
- Office of the Principal Associate Director for Information Technology**
- Office of the Principal Associate Director for Legal and Compliance**
- Office of the Principal Associate Director for Safety and Health**
- Office of the Principal Associate Director for Security**
- Office of the Principal Associate Director for Training and Education**
- Office of the Principal Associate Director for Facilities and Infrastructure**
- Office of the Principal Associate Director for Financial Management**
- Office of the Principal Associate Director for Procurement**
- Office of the Principal Associate Director for Quality Management**
- Office of the Principal Associate Director for Risk Management**
- Office of the Principal Associate Director for Sustainability**
- Office of the Principal Associate Director for Community and Public Affairs**
- Office of the Principal Associate Director for Government and Public Affairs**

1.6 Goals and Strategy



goals (Slide Layer)



strategy (Slide Layer)

Strategy

We will
Maintain the nation's full confidence and trust through our technical prowess, scientific integrity, and reliable delivery of solutions.

We will
Do this by providing a safe, secure, and effective nuclear stockpile, protecting against nuclear threats, countering emerging threats, and providing solutions to strengthen energy security.



[Home](#)[Goal](#)

1.7 Laboratory Mission, Vision and Values

Laboratory Mission, Vision, and Values

In addition to our goals and strategy, we have a mission, a vision for how we intend to achieve that mission, and a set of values that underpin that vision.

[Mission](#)[Vision](#)[Values](#)

Mission (Slide Layer)

Mission

LANL's mission is to solve national security challenges through scientific excellence.

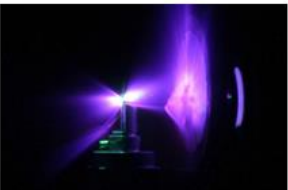


[Home](#) [Vision](#) [Values](#)

Vision (Slide Layer)

Vision

Our vision is to deliver science and technology to protect our nation and promote world stability.



[Home](#) [Mission](#) [Values](#)

Values (Slide Layer)

Values

Service: Serving our country, our partners, our community, and each other.

Excellence: Ensuring timely mission execution through scientific, operational, and business excellence.

Integrity: Building trust through intellectual honesty, ethical conduct, and individual responsibility.

Teamwork: Collaborating with colleagues and partners, respecting diverse opinions and backgrounds, vigorously debating alternatives, and coming together to achieve the best solutions.

Stewardship: Being good stewards of the taxpayers' dollars, the Laboratory, our community, and the environment.

Safety and Security: Ensuring that safety and security are integral to everything we do.

The LANL workforce must be committed to these values.

[Home](#) [Mission](#) [Values](#)

1.8 What Lies Ahead

What Lies Ahead

In the next module, we will look at the Laboratory's physical spaces, including some of its facilities, ways of identifying buildings and getting around, and important communications systems and services. But first, how about a little knowledge check?



Notes:

1.9 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

The Laboratory's mission is

- ☐ to provide employment for northern New Mexico
- ☒ to solve national security challenges
- ☐ to become the oldest national Laboratory
- ☐ to contribute to the economic base of the Southwest

Correct	Choice
	to provide employment for northern New Mexico
X	to solve national security challenges
	to become the oldest national Laboratory
	to contribute to the economic base of the Southwest

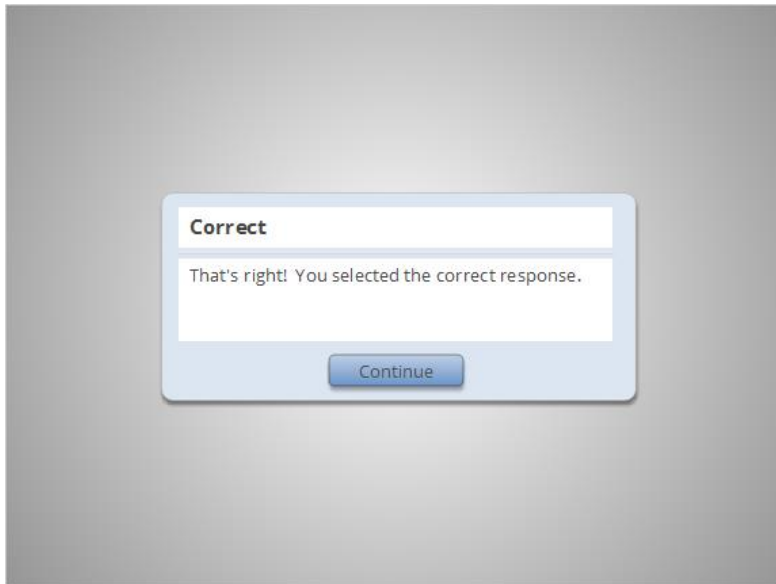
Feedback when correct:

That's right! You selected the correct response.

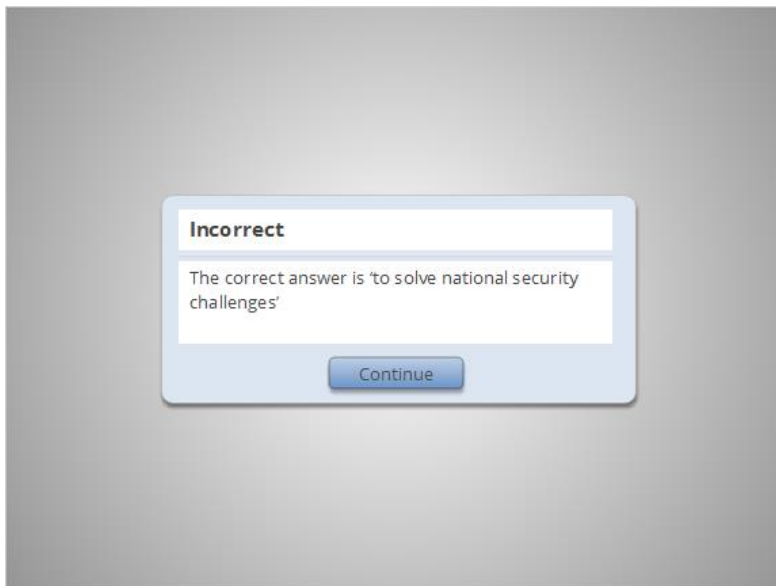
Feedback when incorrect:

The correct answer is 'to solve national security challenges'

Correct (Slide Layer)



Incorrect (Slide Layer)



1.10 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

Delivering science and technology to protect our nation and promote world stability is

- ☐ second in importance to getting a job done
- ☐ only important when the budget allows
- ☒ the LANL vision
- ☐ of concern only to managers

Correct	Choice
	second in importance to getting a job done
	only important when the budget allows
X	the LANL vision
	of concern only to managers

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'the LANL vision'

Correct (Slide Layer)



Incorrect (Slide Layer)



1.11 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

The values of the Laboratory are

- ☐ of concern only to Lab managers
- ☐ items to be implemented in the future
- ☐ to be applied whenever it is convenient
- ☒ to be followed by each worker here

Correct	Choice
	of concern only to Lab managers
	items to be implemented in the future
	to be applied whenever it is convenient
X	to be followed by each worker here

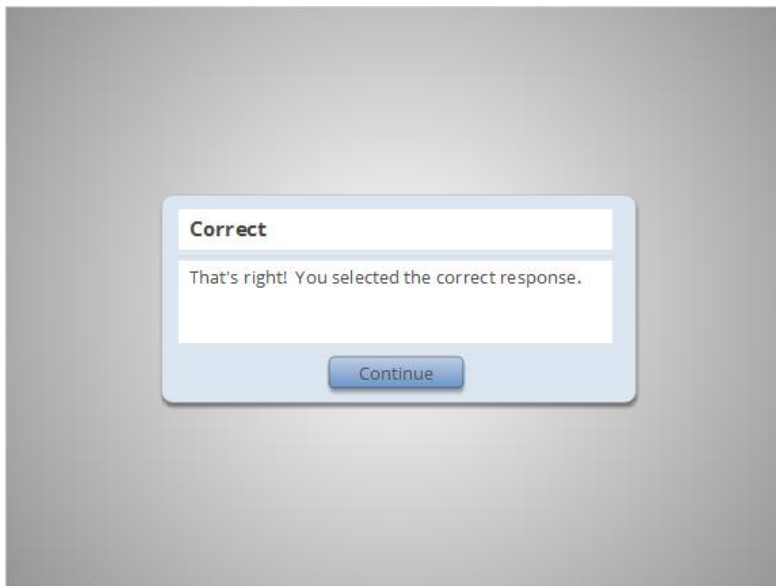
Feedback when correct:

That's right! You selected the correct response.

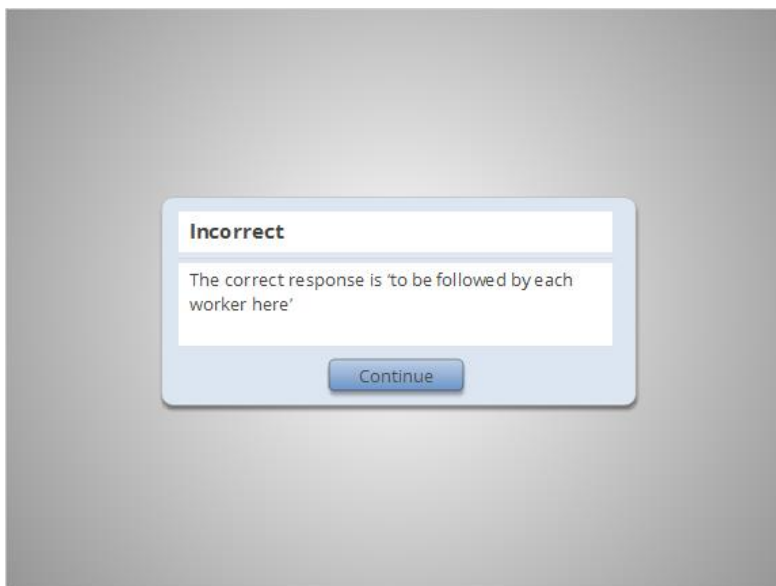
Feedback when incorrect:

The correct response is 'to be followed by each worker here'

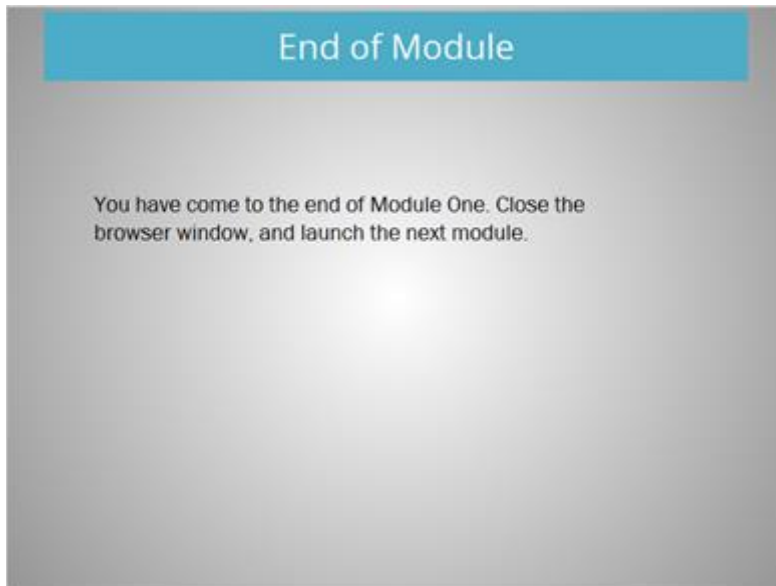
Correct (Slide Layer)



Incorrect (Slide Layer)



1.12 End of Module



Module 2 - Geography

1. You are Here

1.1 Geography Video w/Audio



Notes:

1.2 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

A building designation is the

- ☐ Nickname given to each building
- ☒ Technical area (TA) and building number
- ☐ Appointed building manager
- ☐ Set research mission for each building

Correct	Choice
	Nickname given to each building
X	Technical area (TA) and building number
	Appointed building manager
	Set research mission for each building

Feedback when correct:

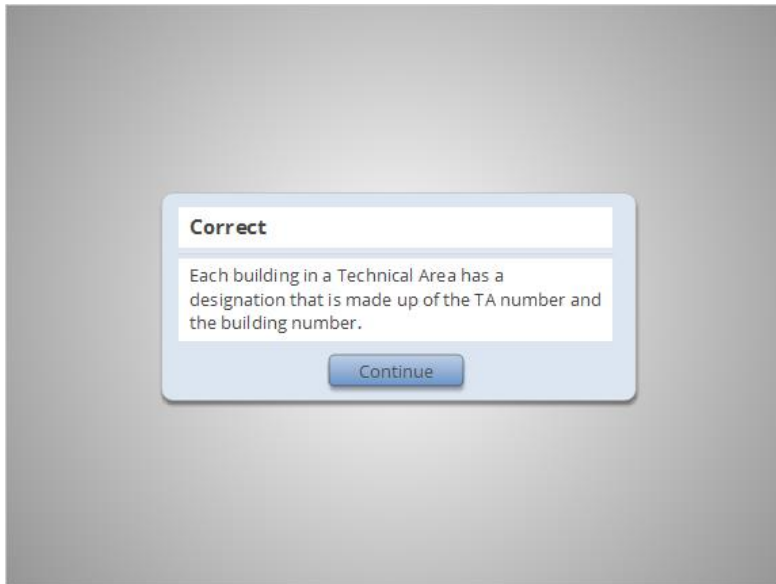
Each building in a Technical Area has a designation that is made up of the TA number and the building number.

Feedback when incorrect:

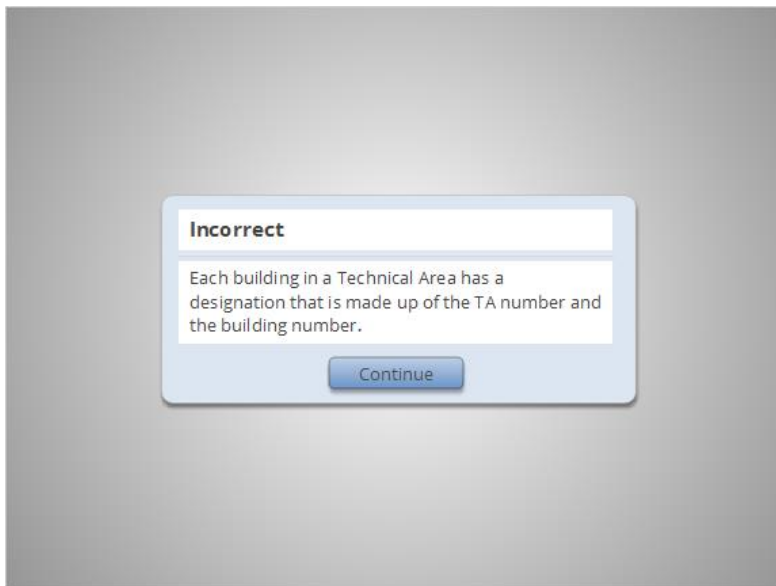
Each building in a Technical Area has a designation that is made up of the TA number and the building number.

Notes:

Correct (Slide Layer)



Incorrect (Slide Layer)



1.3 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

Every Laboratory building has

- ☐ A 6-foot security fence surrounding it
- ☐ Armed guards at the entrance
- ☒ A designation posted on an outside wall and sometimes on a sign
- ☐ All choices presented

Correct	Choice
	A 6-foot security fence surrounding it
	Armed guards at the entrance
X	A designation posted on an outside wall and sometimes on a sign
	All choices presented

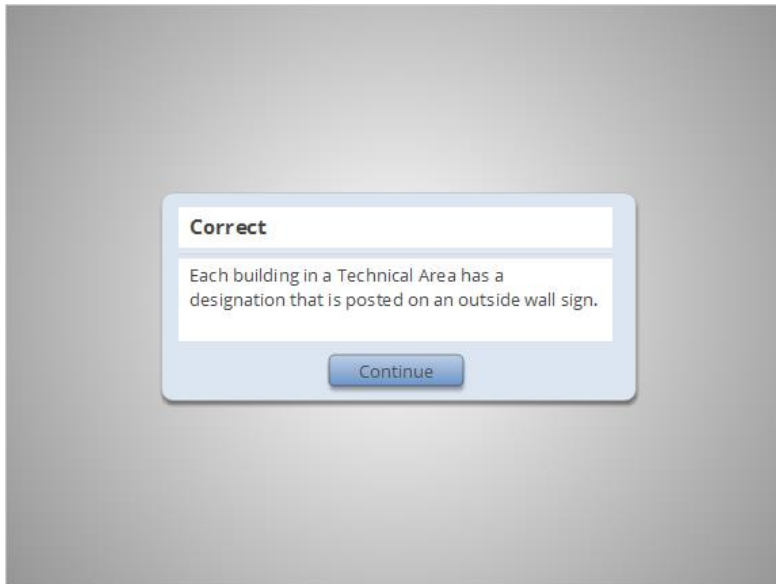
Feedback when correct:

Each building in a Technical Area has a designation that is posted on an outside wall sign.

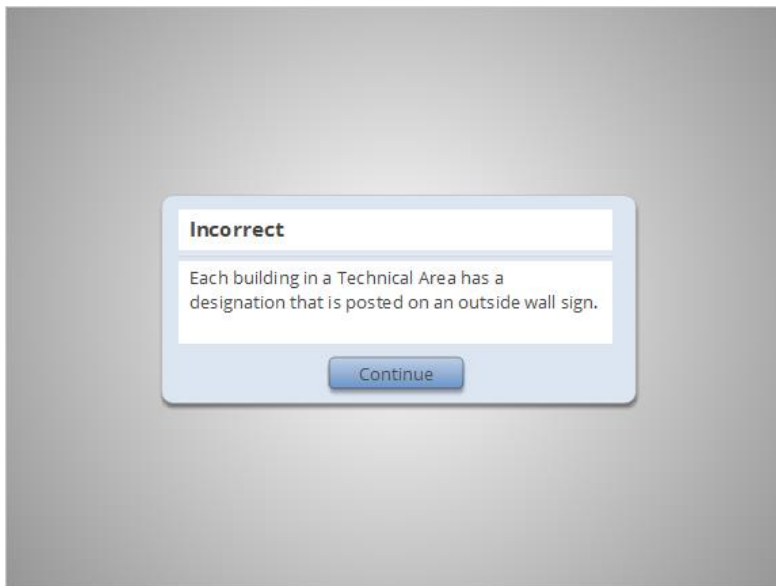
Feedback when incorrect:

Each building in a Technical Area has a designation that is posted on an outside wall sign.

Correct (Slide Layer)



Incorrect (Slide Layer)



1.4 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

Illegal parking on Laboratory property is

- ☐ Overlooked if the driver is on important business
- ☐ Allowed for quick errands at TA-3
- ☐ Not allowed but there are no consequences
- ☒ Subject to citations, fines, and towing

Correct	Choice
	Overlooked if the driver is on important business
	Allowed for quick errands at TA-3
	Not allowed but there are no consequences
X	Subject to citations, fines, and towing

Feedback when correct:

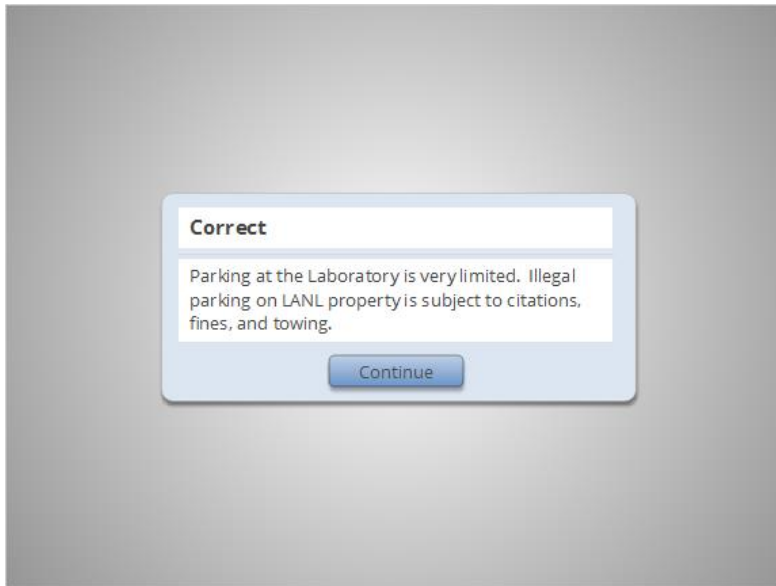
Parking at the Laboratory is very limited. Illegal parking on LANL property is subject to citations, fines, and towing.

Feedback when incorrect:

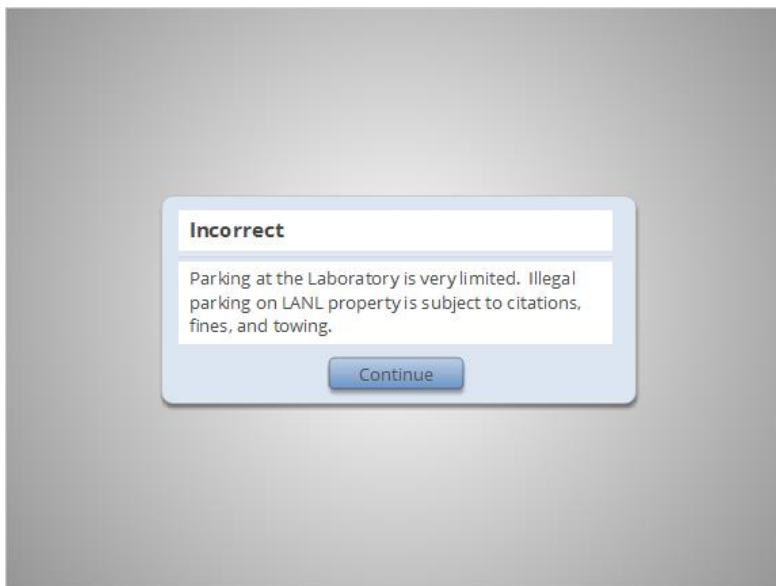
Parking at the Laboratory is very limited. Illegal parking on LANL property is subject to citations, fines, and towing.

Notes:

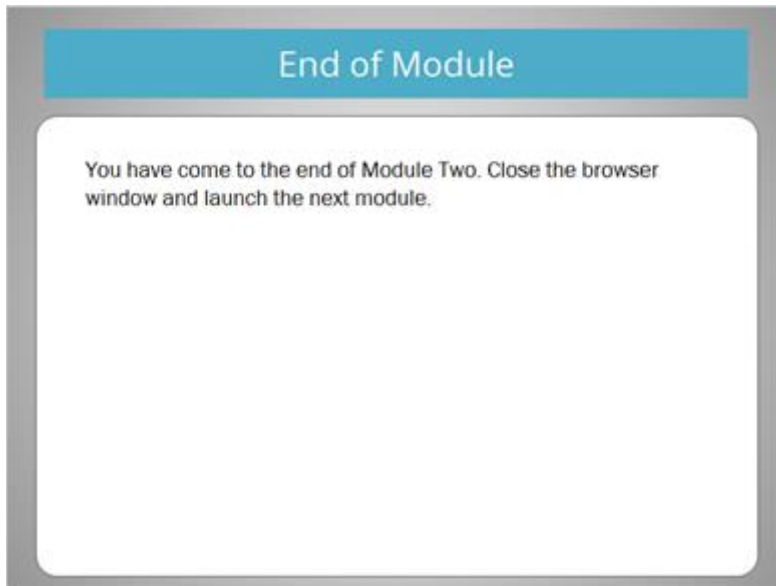
Correct (Slide Layer)



Incorrect (Slide Layer)



1.5 End of Module

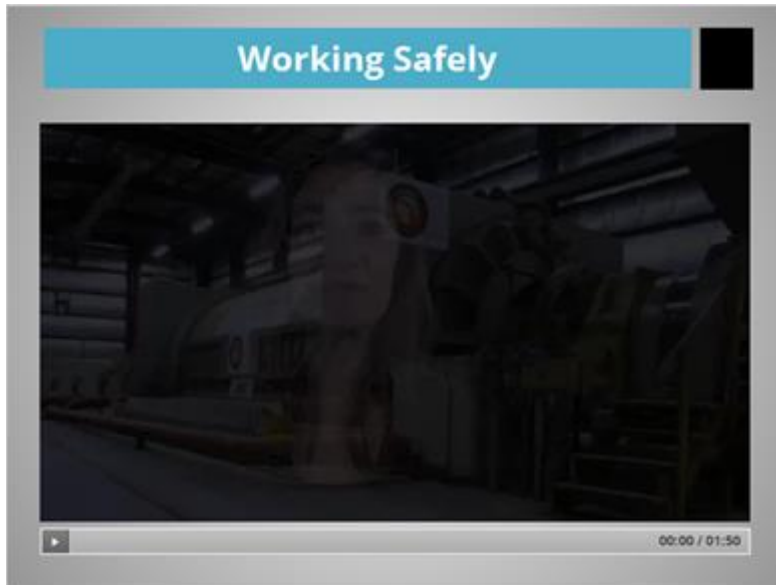


Notes:

Module Three – Working Safely

1. 1.Safety Expectations

1.1 Introduction



Notes:

1.2 Safety Policy and Values



Laboratory Safety Policy and Values

The following governing policies provide the basis for how we execute work safely and meet mission assignments within the framework of legal, regulatory, and contract requirements.

[Click on each bullet to learn more](#)

- 1
- 2
- 3
- 4
- 5
- 6
- 7

Notes:

1 (Slide Layer)



Laboratory Safety Policy and Values

The following governing policies provide the basis for how we execute work safely and meet mission assignments within the framework of legal, regulatory, and contract requirements.

[Click on each bullet to learn more](#)

- 1
- 2
- 3
- 4
- 5
- 6
- 7

We conduct our work safely and responsibly to achieve our mission.

2 (Slide Layer)

Laboratory Safety Policy and Values

The following governing policies provide the basis for how we execute work safely and meet mission assignments within the framework of legal, regulatory, and contract requirements.

[Click on each bullet to learn more](#)

1

2

3

4

5

6

7

We ensure a safe and healthful work environment for workers, contractors, visitors, and other onsite personnel.

3 (Slide Layer)

Laboratory Safety Policy and Values

The following governing policies provide the basis for how we execute work safely and meet mission assignments within the framework of legal, regulatory, and contract requirements.

[Click on each bullet to learn more](#)

1

2

3

4

5

6

7

We protect the health, safety, and welfare of the general public.

4 (Slide Layer)

Laboratory Safety Policy and Values

The following governing policies provide the basis for how we execute work safely and meet mission assignments within the framework of legal, regulatory, and contract requirements.

Click on each bullet to learn more

1

2

3

4

5

6

7

We do not compromise safety for personal, programmatic, or operational reasons.

5 (Slide Layer)

Laboratory Safety Policy and Values

The following governing policies provide the basis for how we execute work safely and meet mission assignments within the framework of legal, regulatory, and contract requirements.

Click on each bullet to learn more

1

2

3

4

5

6

7

We operate, manage, and maintain the facilities and infrastructure to achieve our mission.

6 (Slide Layer)

Laboratory Safety Policy and Values

The following governing policies provide the basis for how we execute work safely and meet mission assignments within the framework of legal, regulatory, and contract requirements.

[Click on each bullet to learn more](#)

1

2

3

4

5

6

7

We manage our facilities to perform work safely and securely, support a healthful and positive working environment, and protect the nation's investment.

7 (Slide Layer)

Laboratory Safety Policy and Values

The following governing policies provide the basis for how we execute work safely and meet mission assignments within the framework of legal, regulatory, and contract requirements.

[Click on each bullet to learn more](#)

1

2

3

4

5

6

7

We protect the property, equipment, and facilities from damage or loss resulting from accidents or improper working conditions.

1.3 Zero Accidents

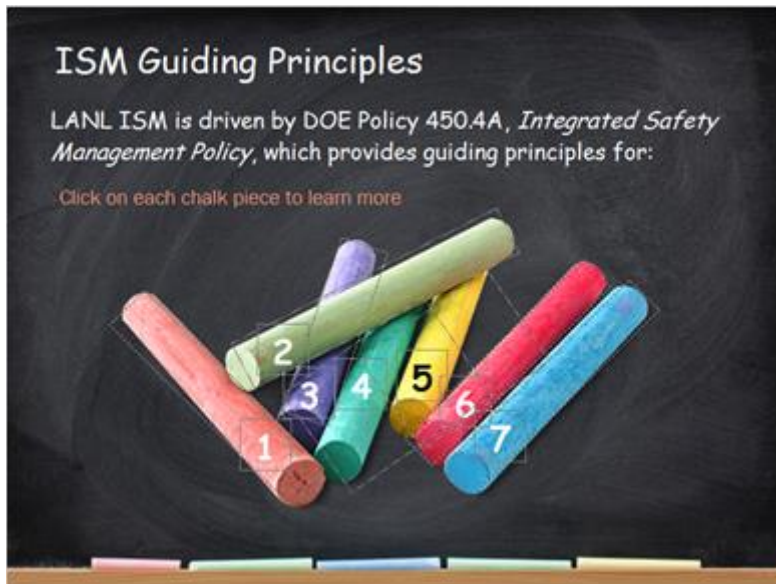


1.4 ISM

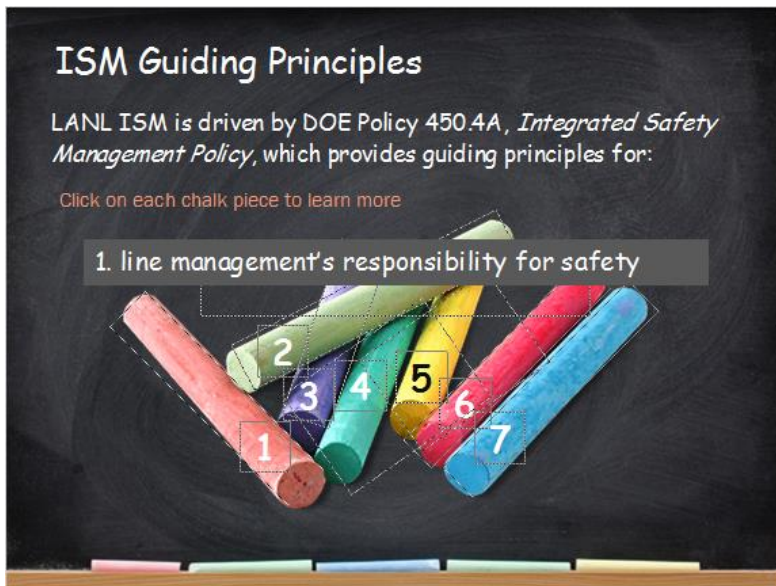


Notes:

1.5 ISM Guiding Principles



1 (Slide Layer)



2 (Slide Layer)

ISM Guiding Principles

LANL ISM is driven by DOE Policy 450.4A, *Integrated Safety Management Policy*, which provides guiding principles for:

[Click on each chalk piece to learn more](#)

2. clear roles and responsibilities

A chalkboard with seven numbered chalk pieces (1-7) arranged in a semi-circle. A grey box highlights principle 2: "2. clear roles and responsibilities". The chalk pieces are numbered 1 through 7, with 1 being red, 2 green, 3 purple, 4 teal, 5 yellow, 6 red, and 7 blue. The background is a dark chalkboard with a wooden chalk tray at the bottom.

3 (Slide Layer)

ISM Guiding Principles

LANL ISM is driven by DOE Policy 450.4A, *Integrated Safety Management Policy*, which provides guiding principles for:

[Click on each chalk piece to learn more](#)

3. competence commensurate with responsibilities

A chalkboard with seven numbered chalk pieces (1-7) arranged in a semi-circle. A grey box highlights principle 3: "3. competence commensurate with responsibilities". The chalk pieces are numbered 1 through 7, with 1 being red, 2 green, 3 purple, 4 teal, 5 yellow, 6 red, and 7 blue. The background is a dark chalkboard with a wooden chalk tray at the bottom.

4 (Slide Layer)

ISM Guiding Principles

LANL ISM is driven by DOE Policy 450.4A, *Integrated Safety Management Policy*, which provides guiding principles for:

[Click on each chalk piece to learn more](#)

4. balanced priorities



5 (Slide Layer)

ISM Guiding Principles

LANL ISM is driven by DOE Policy 450.4A, *Integrated Safety Management Policy*, which provides guiding principles for:

[Click on each chalk piece to learn more](#)

5. identification of safety standards and requirements



6 (Slide Layer)

ISM Guiding Principles

LANL ISM is driven by DOE Policy 450.4A, *Integrated Safety Management Policy*, which provides guiding principles for:

[Click on each chalk piece to learn more](#)

6. hazard controls tailored to the work being performed



7 (Slide Layer)

ISM Guiding Principles

LANL ISM is driven by DOE Policy 450.4A, *Integrated Safety Management Policy*, which provides guiding principles for:

[Click on each chalk piece to learn more](#)

7. operations authorization



1.6 ISM Program

ISM Program

The ISM Program describes the specific work activities that must be accomplished and is organized around the following five core functions:

[Click on each bullet to learn more](#)

- 1
- 2
- 3
- 4
- 5

The diagram illustrates the five core functions of the ISM Program arranged in a circular flow around the central goal: "Work Safely & Securely". The functions are: 1. Define Work (green arrow pointing right), 2. Analyze Hazards & Risks (purple arrow pointing down), 3. Develop Controls (blue arrow pointing left), 4. Perform Work (pink arrow pointing up), and 5. Ensure Performance (orange arrow pointing right). Each function is represented by a stick figure icon and a corresponding colored arrow.

Notes:

1 (Slide Layer)

ISM Program

The ISM Program describes the specific work activities that must be accomplished and is organized around the following five core functions:

[Click on each bullet to learn more](#)

- 1 **Define the scope of work.**
- 2
- 3
- 4
- 5

The diagram illustrates the five core functions of the ISM Program arranged in a circular flow around the central goal: "Work Safely & Securely". The functions are: 1. Define Work (green arrow pointing right), 2. Analyze Hazards & Risks (purple arrow pointing down), 3. Develop Controls (blue arrow pointing left), 4. Perform Work (pink arrow pointing up), and 5. Ensure Performance (orange arrow pointing right). Each function is represented by a stick figure icon and a corresponding colored arrow.


2 (Slide Layer)

ISM Program

The ISM Program describes the specific work activities that must be accomplished and is organized around the following five core functions:

[Click on each bullet to learn more](#)

- 1 **Identify and analyze hazards associated with the work.**
- 2
- 3
- 4
- 5



The diagram illustrates the five core functions of the ISM Program in a circular flow around the central text "Work Safely & Securely". The functions are: Define Work (top), Analyze Hazards & Risks (right, highlighted in purple), Develop Controls (bottom right), Perform Work (bottom left), and Ensure Performance (top left). Each function is represented by a speech bubble with an icon of a person performing the task.


3 (Slide Layer)

ISM Program

The ISM Program describes the specific work activities that must be accomplished and is organized around the following five core functions:

[Click on each bullet to learn more](#)

- 1 **Develop and implement controls.**
- 2
- 3
- 4
- 5



The diagram illustrates the five core functions of the ISM Program in a circular flow around the central text "Work Safely & Securely". The functions are: Define Work (top), Analyze Hazards & Risks (right), Develop Controls (bottom right, highlighted in blue), Perform Work (bottom left), and Ensure Performance (top left). Each function is represented by a speech bubble with an icon of a person performing the task.


4 (Slide Layer)

ISM Program

The ISM Program describes the specific work activities that must be accomplished and is organized around the following five core functions:

[Click on each bullet to learn more](#)

- 1 **Perform the work within controls.**
- 2
- 3
- 4
- 5



The diagram illustrates the ISM Program's five core functions in a circular flow around the central text "Work Safely & Securely". The functions are: Define Work (top), Analyze Hazards & Risks (right), Develop Controls (bottom right), Perform Work (bottom left, highlighted in red), and Ensure Performance (top left). Each function is represented by a speech bubble with an icon of a person performing the task.


5 (Slide Layer)

ISM Program

The ISM Program describes the specific work activities that must be accomplished and is organized around the following five core functions:

[Click on each bullet to learn more](#)

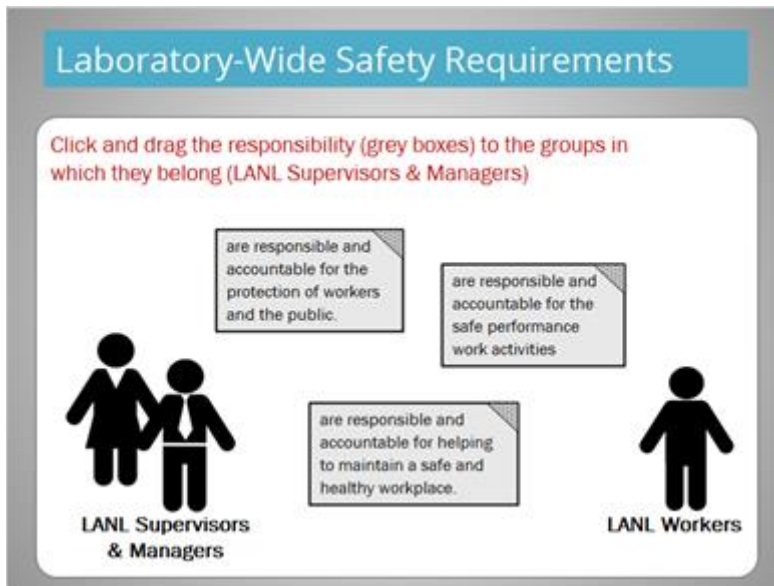
- 1 **Provide feedback and continuous improvement.**
- 2
- 3
- 4
- 5



The diagram illustrates the ISM Program's five core functions in a circular flow around the central text "Work Safely & Securely". The functions are: Define Work (top), Analyze Hazards & Risks (right), Develop Controls (bottom right), Perform Work (bottom left), and Ensure Performance (top left, highlighted in red). Each function is represented by a speech bubble with an icon of a person performing the task.

1.7 Safety Requirements

(Drag and Drop, 10 points, 1 attempt permitted)



Drag Item	Drop Target
Group 1	Supervisor
Group 2	Worker
Group 3	Worker

Drag and drop properties
Snap dropped items to drop target (Stack random)
Delay item drop states until interaction is submitted

Feedback when correct:

Supervisors and managers at the Laboratory are responsible and accountable for the protection of workers and the public. As a LANL worker, you are responsible and accountable for the safe performance of your work activities and for helping to maintain a safe and healthy workplace.

Feedback when incorrect:

Supervisors and managers at the Laboratory are responsible and accountable for the protection of workers and the public. As a LANL worker, you are responsible and accountable for the safe performance of your work activities and for helping to maintain a safe and healthy workplace

Correct (Slide Layer)

Laboratory-Wide Safety Requirements

Click and drag the responsibility (grey boxes) to the groups in which they apply.

Correct

Supervisors and managers at the Laboratory are responsible and accountable for the protection of workers and the public. As a LANL worker, you are responsible and accountable for the safe performance of your work activities and for helping to maintain a safe and healthy workplace.

Continue

accountable for helping to maintain a safe and healthy workplace.

LANL Supervisors & Managers

LANL Workers

Incorrect (Slide Layer)

Laboratory-Wide Safety Requirements

Click and drag the responsibility (grey boxes) to the groups in which they apply.

Incorrect

Supervisors and managers at the Laboratory are responsible and accountable for the protection of workers and the public. As a LANL worker, you are responsible and accountable for the safe performance of your work activities and for helping to maintain a safe and healthy workplace.

Continue

accountable for helping to maintain a safe and healthy workplace.

LANL Supervisors & Managers

LANL Workers

1.8 Policy Page

Laboratory-Wide Safety Requirements

Safety requirements are established for the entire Laboratory, for each facility, and for all work activities. To guide you in the process, a series of functional documents and local instructions define processes, operations, or other information needed to perform certain work.

Laboratory-wide safety requirements are found in institutional documents, which include system descriptions, program descriptions, and procedures (Ps).

Policy Page demonstration

1.9 Work Management

Laboratory-Wide Safety Requirements

All work, programmatic and nonprogrammatic, within any facility falls within a work management process that considers hazards and safety and security requirements. For your own safety and that of others, make sure you are familiar with work processes within your facility.

A photograph of an electrical main breaker panel. A yellow label with the words "MAIN BREAKER" and a downward-pointing arrow is affixed to the top of the panel, indicating the location of the main circuit breaker switch.

Notes:

1.10 Responsibilities

Responsibilities

Click on images to learn about the manager and worker responsibilities.

A black silhouette icon of a person with a circular head and rectangular body, representing a worker.

LANL Workers


A black silhouette icon of a person with a circular head and a skirt-like lower body, representing a manager.

LANL Managers


Managers (Slide Layer)

Responsibilities

Click on images to learn about the manager and worker responsibilities.



LANL Workers




LANL Managers

- LANL managers have the following responsibilities:
 - approve the activity-specific part of the integrated work document (IWD) based on evaluating the adequacy of controls;
 - determine the competence and commitment of workers to perform specific work assignments in a safe, secure, and environmentally responsible manner, and authorize them as appropriate; and
 - monitor work to ensure that it is executed in a safe, secure, and environmentally responsible manner in accordance with the IWD.


Workers (Slide Layer)

Responsibilities

Click on images to learn about the manager and worker responsibilities.



LANL Workers



LANL Managers

- You must not perform work unless it has been approved by your RLM and the FOD and you are confident that the work can be done safely. You must
 - maintain required training and qualification to perform the work;
 - provide practical knowledge and technical expertise, as needed, to define work tasks/steps, identify hazards, and establish controls that are workable;
 - perform work in a safe, secure, and environmentally responsible manner and in accordance with any requirements contained in the IWD;
 - stop work when hazards change or when you encounter unexpected work conditions;
 - use lessons learned from any control failures, near misses, or incidents to make improvements; and
 - check frequently to ensure that controls are functioning and are effective in regulating the risks.

1.11 Pause and Stop




You (Slide Layer)



Pause (Slide Layer)

Click on YOU, PAUSE, STOP, and RETALIATION to learn more

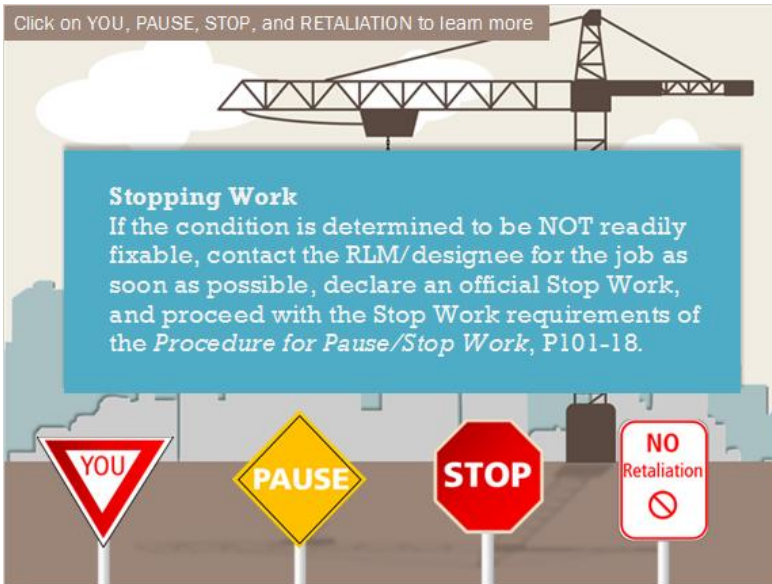
Pausing Work
In general, if you observe an unsafe condition or act that may pose an imminent danger or other safety or security concern/hazard, you need to inform all workers and the manager engaged in that work and request that the work activity be paused and/or stopped. For work that is paused as a result of a safety concern that can be resolved immediately and to the mutual satisfaction of the workers involved, no reporting or further action is required.



Stop (Slide Layer)

Click on YOU, PAUSE, STOP, and RETALIATION to learn more

Stopping Work
If the condition is determined to be NOT readily fixable, contact the RLM/designee for the job as soon as possible, declare an official Stop Work, and proceed with the Stop Work requirements of the *Procedure for Pause/Stop Work*, P101-18.




Retaliation (Slide Layer)

Click on YOU, PAUSE, STOP, and RETALIATION to learn more

Retaliation for Stopping Work Is Prohibited
The Laboratory prohibits retaliation against workers for stopping work for safety reasons. Any form of retaliation should be reported by the following means:

- If you are a Laboratory employee, report such retaliation to your supervisor or manager, call the Laboratory's Employee Concerns Program or send an e-mail to ecp@lanl.gov.
- If you are a contract worker, report such retaliation to your employer, call the Employee Concerns Program, or send an e-mail to ecp@lanl.gov.

If your complaint of retaliation is not resolved by the Laboratory or its contractor, you can always call the DOE/NNSA Employee Concerns Hotline.



1.12 Reporting

Reporting Safety and Security Concerns

You may encounter safety concerns in your work area that are either unrelated to a work activity or do not pose an immediate concern. It is important to report these concerns so that they can be addressed. You do not have to give your name when reporting a safety or security concern. You also are protected from reprisal for reporting a problem.

To report a safety or security concern, you may:

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5

Notify (Slide Layer)

Reporting Safety and Security Concerns

You may encounter safety concerns in your work area that are either unrelated to a work activity or do not pose an immediate concern. It is important to report these concerns so that they can be addressed. You do not have to give your name when reporting a safety or security concern. You also are protected from reprisal for reporting a problem.

To report a safety or security concern, you may:

Click on each bullet to learn more

1

2

3

4

5

notify your supervisor

Safety Help Desk (Slide Layer)

Reporting Safety and Security Concerns

You may encounter safety concerns in your work area that are either unrelated to a work activity or do not pose an immediate concern. It is important to report these concerns so that they can be addressed. You do not have to give your name when reporting a safety or security concern. You also are protected from reprisal for reporting a problem.

To report a safety or security concern, you may:

Click on each bullet to learn more

1

2

3

4

5

call the Safety Help Desk or send an e-mail to
safety@lanl.gov

ECP (Slide Layer)

Reporting Safety and Security Concerns

You may encounter safety concerns in your work area that are either unrelated to a work activity or do not pose an immediate concern. It is important to report these concerns so that they can be addressed. You do not have to give your name when reporting a safety or security concern. You also are protected from reprisal for reporting a problem.

To report a safety or security concern, you may:

[Click on each bullet to learn more](#)

1

2

3

4

5

call the Employee Concerns Program or send an e-mail to ecp@lanl.gov

Security Help Line (Slide Layer)

Reporting Safety and Security Concerns

You may encounter safety concerns in your work area that are either unrelated to a work activity or do not pose an immediate concern. It is important to report these concerns so that they can be addressed. You do not have to give your name when reporting a safety or security concern. You also are protected from reprisal for reporting a problem.

To report a safety or security concern, you may:

[Click on each bullet to learn more](#)

1

2

3

4

5

call the Security Help Line or send an e-mail to security@lanl.gov (for unclassified issues only)

WSST (Slide Layer)

Reporting Safety and Security Concerns

You may encounter safety concerns in your work area that are either unrelated to a work activity or do not pose an immediate concern. It is important to report these concerns so that they can be addressed. You do not have to give your name when reporting a safety or security concern. You also are protected from reprisal for reporting a problem.

To report a safety or security concern, you may:

[Click on each bullet to learn more](#)

1

2

3

4

5


contact your Worker Safety and Security Team (WSST) representative


2. 2. Worker Protection Programs

2.1 Worker Safety and Health Rule

DOE 10 CFR 851, "Worker Safety and Health Rule"

The rule requires that DOE contractor workers be provided with safe and healthful workplaces in which hazards are abated, controlled, or otherwise mitigated in a manner that provides reasonable assurance that workers are protected from the hazards associated with their jobs. To accomplish this requirement, the rule establishes management responsibilities, worker rights, safety and health standards, and required training. DOE contractors and their workers are covered by the rule. Contractors include parent corporations and subcontractors that have responsibilities for performing work at a DOE site in the advancement of a DOE mission.


DOE 10 CFR 851



2.2 Lab's Responsibilities

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Notes:

1 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Establish written policy and goals for the worker safety and health program

2 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Employ qualified staff to implement and oversee the worker safety and health program

3 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Assign worker safety and health program responsibilities

4 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Facilitate employee involvement in the worker health and safety program

5 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Ensure that information regarding the worker health and safety program is accessible to the employee regulated under the program

6 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Establish procedures for workers to report job-related injuries, illnesses, and hazards

7 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Ensure a deliberate and expedient response to reports of job-related injuries

8 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Ensure that workers are privy to frequent communications with employers regarding workplace safety

9 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Establish procedures that allow workers to cease/decline to partake in work that may threaten the livelihood, safety, and/or wellbeing of employees

10 (Slide Layer)

The Laboratory's Responsibilities under DOE 10 CFR 851

Under DOE 10 CFR 851, LANL and subcontractor management have the responsibility to

[Click on each bullet to learn more](#)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Notify workers of their rights and responsibilities and ensure that DOE-designated Worker Protection posters are visible and prominently placed

2.3 Workers Rights

Worker's Rights under DOE 10 CFR 851

Laboratory workers also have certain rights afforded by federal regulation DOE 10 CFR 851. Workers have the right to

[Click on each word to learn more](#)

Express Concerns
Observe
Notification of Exposure
Cease Work
Access to Publications
See Inspections
Get a Representative
Decline to Perform Task

Access (Slide Layer)

Worker's Rights under DOE 10 CFR 851

Laboratory workers also have certain rights afforded by federal regulation DOE 10 CFR 851. Workers have the right to

Click on each word to learn more

Express Concerns

Observe

Notification of Exposure

Cease Work

Access to Publications

See Inspections

Get a Representative

Decline to Perform Task

access DOE safety publications and guidelines, the worker safety and health program, the standards/procedures applicable to workplace, the safety and health posters that inform workers, and any other pertinent information that addresses employee health and safety

Notification (Slide Layer)

Worker's Rights under DOE 10 CFR 851

Laboratory workers also have certain rights afforded by federal regulation DOE 10 CFR 851. Workers have the right to

Click on each word to learn more

Express Concerns

Observe

Notification of Exposure

Cease Work

Access to Publications

See Inspections

Get a Representative

Decline to Perform Task

be notified when it becomes known that workers were over-exposed to hazardous material

Observe (Slide Layer)

Worker's Rights under DOE 10 CFR 851

Laboratory workers also have certain rights afforded by federal regulation DOE 10 CFR 851. Workers have the right to

Click on each word to learn more

Express Concerns

Observe

Decline to Perform Task

Notification of Exposure

Cease Work

Access to Publications

See Inspections

Get a Representative

observe the measuring/monitoring of hazardous material and be privy to the results of their own exposure monitoring

Representative (Slide Layer)

Worker's Rights under DOE 10 CFR 851

Laboratory workers also have certain rights afforded by federal regulation DOE 10 CFR 851. Workers have the right to

Click on each word to learn more

Express Concerns

Observe

Decline to Perform Task

Notification of Exposure

Cease Work

Access to Publications

See Inspections

Get a Representative

mandate that an employee representative be present to observe/assist in workplace investigations

Inspections (Slide Layer)

Worker's Rights under DOE 10 CFR 851

Laboratory workers also have certain rights afforded by federal regulation DOE 10 CFR 851. Workers have the right to

Click on each word to learn more

Express Concerns

Observe

Decline to Perform Task

Notification of Exposure

Cease Work

Access to Publications

See Inspections

Get a Representative

request, receive, and review results from workplace investigations and inspections

Concerns (Slide Layer)

Worker's Rights under DOE 10 CFR 851

Laboratory workers also have certain rights afforded by federal regulation DOE 10 CFR 851. Workers have the right to

Click on each word to learn more

Express Concerns

Observe

Decline to Perform Task

Notification of Exposure

Cease Work

Access to Publications

See Inspections

Get a Representative

express concerns regarding safety and health within the workplace

Decline (Slide Layer)

Worker's Rights under DOE 10 CFR 851

Laboratory workers also have certain rights afforded by federal regulation DOE 10 CFR 851. Workers have the right to

Click on each word to learn more

Express Concerns

Observe

Notification of Exposure

Cease Work

Access to Publications

See Inspections

Get a Representative

Decline to Perform Task

decline to perform tasks that they believe will endanger their lives and/or threaten their physical well-being. More specifically, if the worker does not have sufficient time to partake in the prescribed hazard reporting/abatement procedures, then the worker can simply decline to partake in the allegedly hazardous activity

Cease (Slide Layer)

Worker's Rights under DOE 10 CFR 851

Laboratory workers also have certain rights afforded by federal regulation DOE 10 CFR 851. Workers have the right to

Click on each word to learn more

Express Concerns

Observe

Notification of Exposure

Cease Work

Access to Publications

See Inspections

Get a Representative

Decline to Perform Task

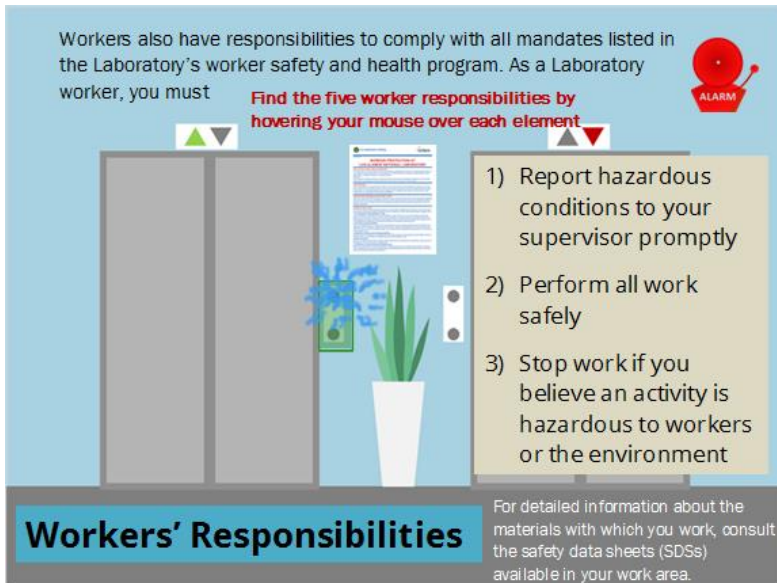
cease work upon discovering that work is exposing them to hazardous conditions. This cessation of work must be done in accordance with the procedures established in the worker safety and health program

2.4 Workers' Responsibilities



Notes:

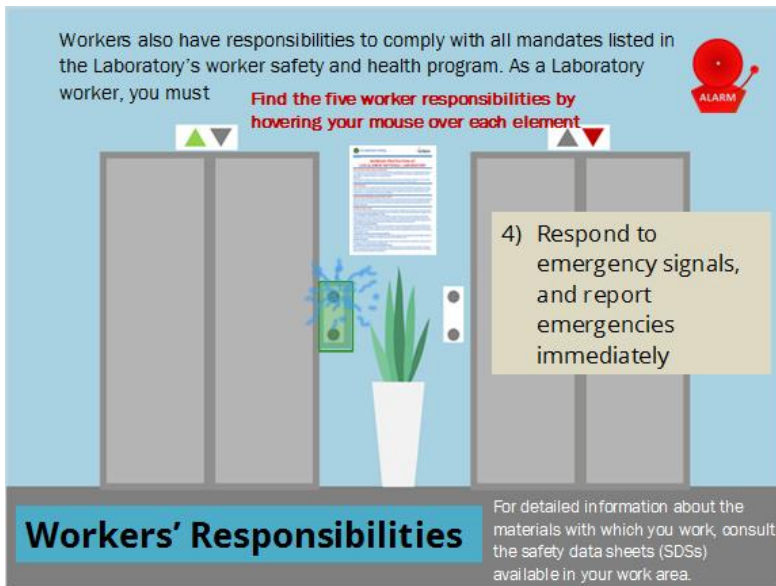
Sparks (Slide Layer)



Alarm (Slide Layer)

Workers also have responsibilities to comply with all mandates listed in the Laboratory's worker safety and health program. As a Laboratory worker, you must

Find the five worker responsibilities by hovering your mouse over each element.



4) Respond to emergency signals, and report emergencies immediately

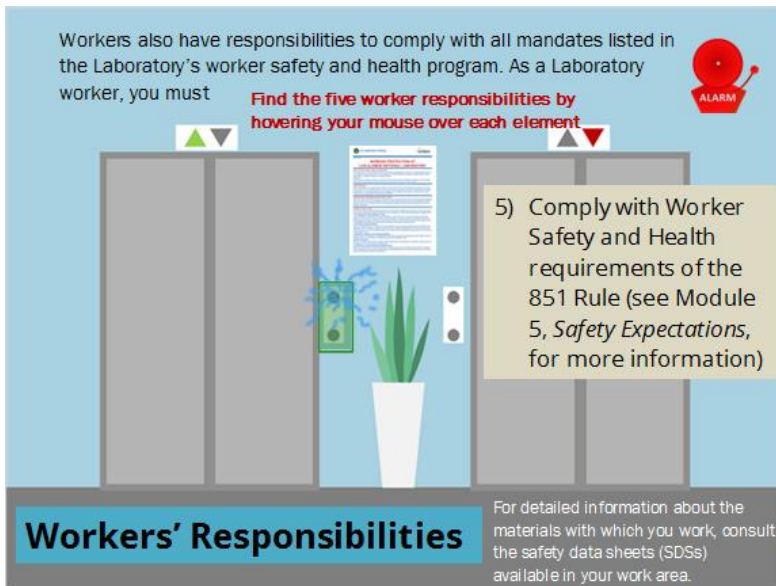
Workers' Responsibilities

For detailed information about the materials with which you work, consult the safety data sheets (SDSs) available in your work area.

851 (Slide Layer)

Workers also have responsibilities to comply with all mandates listed in the Laboratory's worker safety and health program. As a Laboratory worker, you must

Find the five worker responsibilities by hovering your mouse over each element.



5) Comply with Worker Safety and Health requirements of the 851 Rule (see Module 5, *Safety Expectations*, for more information)

Workers' Responsibilities

For detailed information about the materials with which you work, consult the safety data sheets (SDSs) available in your work area.

2.5 DOE VPP

DOE Voluntary Protection Program

Beyond what is required for worker safety, the Laboratory has also created a voluntary worker protection program and a Voluntary Protection Program Office that reports to the Environment, Safety & Health Associate Director to implement this program across the Laboratory. The DOE Voluntary Protection Program (DOE-VPP) is widely recognized across the DOE complex for promoting excellence in occupational safety and worker health.

The Five DOE-VPP Program Elements

1


2

3

4

5

Hover on each bullet to learn more



2.6 Employee WSST Involvement

Employee WSST Involvement

The key to the DOE-VPP is worker involvement. To better enable employee participation, LANL has also established Worker Safety and Security Teams (WSSTs).

Employee WSST Involvement

There are more than 100 LANL WSSTs established at appropriate organizational levels (Institutional, Associate Directorate, Division, and/or Group) to ensure that all workers are represented. The mission of the Worker Safety and Security Team is to improve safety and security at LANL through the direct involvement of all people performing work on behalf of LANL. You are encouraged to meet your WSST representative and participate in improving safety and security, as well as environmental issues, concerns, and considerations, at the Laboratory.

WSST Team



3. 3. Hazards in the Workplace


3.1 Types of Hazards

Types of Hazards

[Click to see example](#)

To understand health effects and to apply effective control measures, the hazard-as well as the degree or amount of the hazard-must be determined. Using scientific instruments to determine the quality and quantity of a hazard can be very precise. However, scientific methods are not available for all hazards.

Observation and judgment, combined with objective scientific measurements, are used to determine the quality and quantity of a hazard. Be aware that the hazard may not give clear signs that you can sense. Make sure you are aware of the health hazards in your work area and activities and what controls are in place to mitigate those hazards. If you have any questions or concerns about your work, contact your supervisor.



3.2 Health Hazards

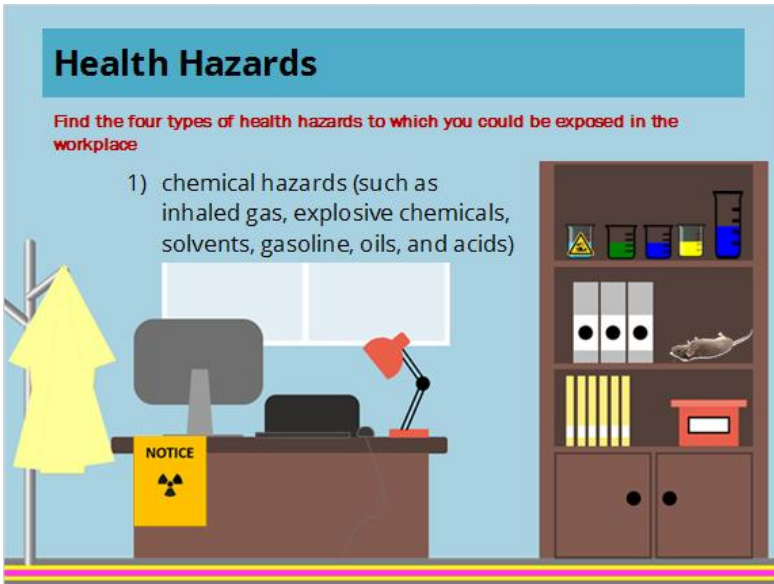


Chemical (Slide Layer)

Health Hazards

Find the four types of health hazards to which you could be exposed in the workplace

- 1) chemical hazards (such as inhaled gas, explosive chemicals, solvents, gasoline, oils, and acids)

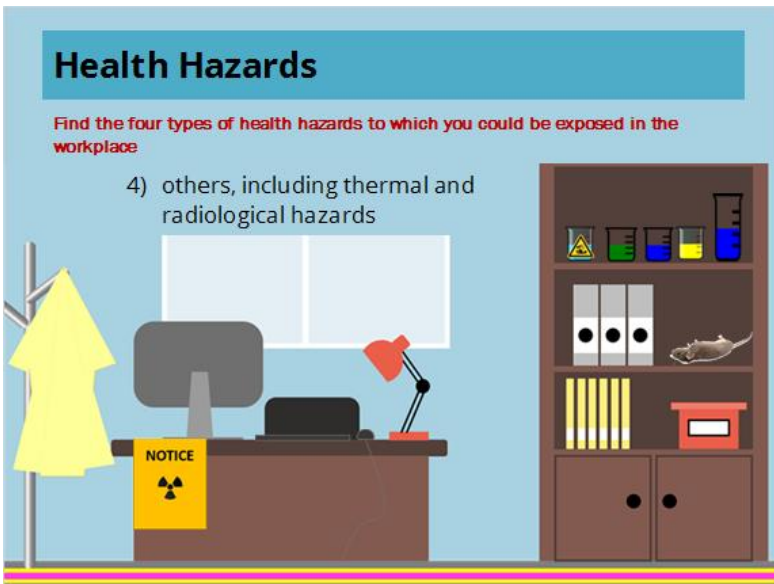
A cartoon illustration of a laboratory or office workspace. On the left, a yellow lab coat hangs on a rack. In the center, a desk holds a computer monitor, a red desk lamp, and a yellow sign with a black radiation symbol and the word "NOTICE". To the right, a brown shelving unit contains several beakers with colored liquids (green, blue, yellow, red), a small brown animal (possibly a rat), a red first aid kit, and a stack of yellow folders. The background is a light blue wall with a window.

Others (Slide Layer)

Health Hazards

Find the four types of health hazards to which you could be exposed in the workplace

- 4) others, including thermal and radiological hazards

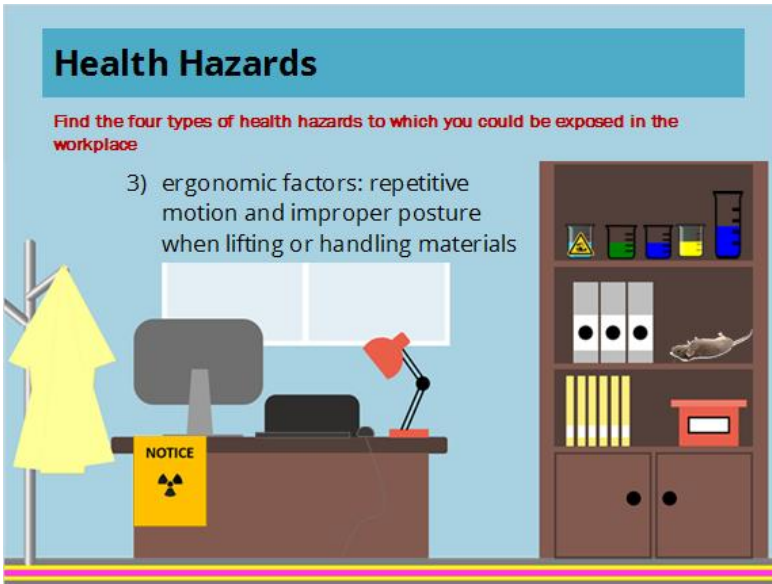
A cartoon illustration of a laboratory or office workspace, identical to the one above. On the left, a yellow lab coat hangs on a rack. In the center, a desk holds a computer monitor, a red desk lamp, and a yellow sign with a black radiation symbol and the word "NOTICE". To the right, a brown shelving unit contains several beakers with colored liquids (green, blue, yellow, red), a small brown animal (possibly a rat), a red first aid kit, and a stack of yellow folders. The background is a light blue wall with a window.

Ergo (Slide Layer)

Health Hazards

Find the four types of health hazards to which you could be exposed in the workplace

3) ergonomic factors: repetitive motion and improper posture when lifting or handling materials



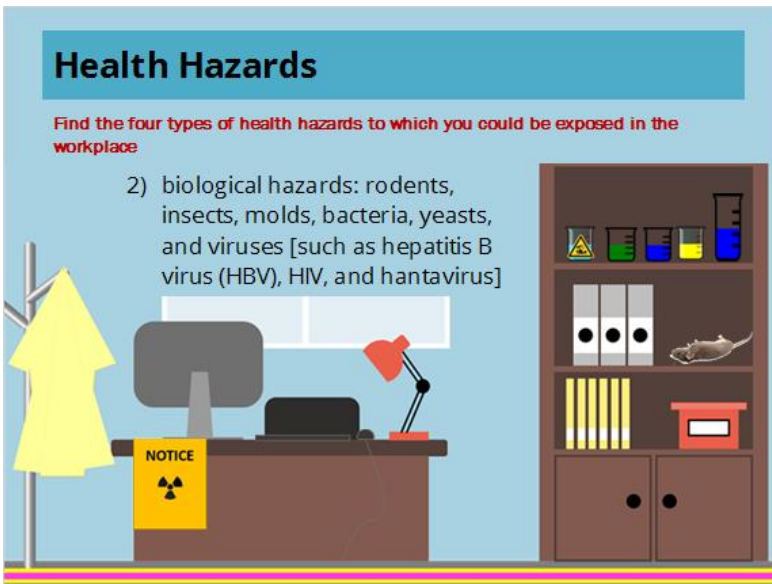
The illustration shows a laboratory workspace. On the left, a yellow lab coat hangs on a rack. In the center, a desk holds a computer monitor, a laptop, and a red desk lamp. A yellow sign with a radiation symbol and the word "NOTICE" is on the desk. To the right, a brown shelving unit contains various items: a radiation warning symbol, beakers with colored liquids, a fish, a red box, and a stack of papers. The background is a light blue wall with a window.

Biological (Slide Layer)

Health Hazards

Find the four types of health hazards to which you could be exposed in the workplace

2) biological hazards: rodents, insects, molds, bacteria, yeasts, and viruses [such as hepatitis B virus (HBV), HIV, and hantavirus]



The illustration shows a laboratory workspace, identical to the one above. On the left, a yellow lab coat hangs on a rack. In the center, a desk holds a computer monitor, a laptop, and a red desk lamp. A yellow sign with a radiation symbol and the word "NOTICE" is on the desk. To the right, a brown shelving unit contains various items: a radiation warning symbol, beakers with colored liquids, a fish, a red box, and a stack of papers. The background is a light blue wall with a window.

3.3 Physical Hazards

Physical Hazards

Click on each icon to find the 4 types of physical hazards that you might encounter in the workplace



Notes:

Environmental (Slide Layer)

Physical Hazards

Click on each icon to find the 4 types of physical hazards that you might encounter in the workplace







environmental hazards, including wet or slippery floors, ice and snow, uneven walking surfaces, poor lighting, and elevated work surfaces

Electrical (Slide Layer)

Physical Hazards

Click on each icon to find the 4 types of physical hazards that you might encounter in the workplace



hazardous energy sources, including electrical, pressure, vacuum, cryogenics, and hydraulics

Mechanical (Slide Layer)

Physical Hazards

Click on each icon to find the 4 types of physical hazards that you might encounter in the workplace



mechanical hazards, including unguarded or improperly maintained machines or equipment

Process (Slide Layer)

Physical Hazards

Click on each icon to find the 4 types of physical hazards that you might encounter in the workplace



process hazards arising from activities such as soldering or welding

3.4 Unsafe Work Practices

Unsafe Work Practices

Unsafe work practices can lead to serious workplace injuries. Some of these practices include the

Click on each bullet to learn more

1

2

3

4

5

6



1 (Slide Layer)

Unsafe Work Practices

Unsafe work practices can lead to serious workplace injuries. Some of these practices include the

[Click on each bullet to learn more](#)

1

2

3

4

5

6

improper use of equipment, such as cranes and hoists



2 (Slide Layer)

Unsafe Work Practices

Unsafe work practices can lead to serious workplace injuries. Some of these practices include the

[Click on each bullet to learn more](#)

1

2


3

4

5

6

use of equipment (such as forklifts) without having the required training



3 (Slide Layer)

Unsafe Work Practices

Unsafe work practices can lead to serious workplace injuries. Some of these practices include the

[Click on each bullet to learn more](#)

1

2


3

4

5

6

use of improperly maintained equipment, such as power tools with frayed wires



4 (Slide Layer)

Unsafe Work Practices

Unsafe work practices can lead to serious workplace injuries. Some of these practices include the

[Click on each bullet to learn more](#)

1

2


3

4

5

6

failure to use personal protective equipment (PPE), such as hardhats or safety glasses



5 (Slide Layer)

Unsafe Work Practices

Unsafe work practices can lead to serious workplace injuries. Some of these practices include the

[Click on each bullet to learn more](#)

1

2

3

4

5

6

failure to follow procedures, such as those established for handling hazardous chemicals



6 (Slide Layer)

Unsafe Work Practices

Unsafe work practices can lead to serious workplace injuries. Some of these practices include the

[Click on each bullet to learn more](#)

1

2


3

4

5

6

failure to stop or pause work when unexpected changes or conditions occur



3.5 Accidents, Injuries, and Illnesses

Types of Accidents, Injuries, and Illnesses

Click on each image to learn more

Anticipating and Recognizing Hazards in the Workplace

Accidents, injuries, and illnesses can result from:



1 (Slide Layer)

Types of Accidents, Injuries, and Illnesses

Click on each image to learn more

Anticipating and Recognizing Hazards in the Workplace

Accidents, injuries, and illnesses can result from:



getting struck by an object, such as a falling tool, or
falling against an object, such as a piece of equipment

2 (Slide Layer)

Types of Accidents, Injuries, and Illnesses

Click on each image to learn more

Anticipating and Recognizing Hazards in the Workplace

Accidents, injuries, and illnesses can result from:



contact by a harmful substance, such as a spray of acid



3 (Slide Layer)

Types of Accidents, Injuries, and Illnesses

Click on each image to learn more

Anticipating and Recognizing Hazards in the Workplace

Accidents, injuries, and illnesses can result from:



contact with a harmful object, such as an energized electrical wire



4 (Slide Layer)

Types of Accidents, Injuries, and Illnesses

Click on each image to learn more

Anticipating and Recognizing Hazards in the Workplace

Accidents, injuries, and illnesses can result from:



getting caught in, on, between, or under equipment
(Note: LANL badge lanyards must be able to come apart to break away from your neck if caught)



5 (Slide Layer)

Types of Accidents, Injuries, and Illnesses

Click on each image to learn more

Anticipating and Recognizing Hazards in the Workplace

Accidents, injuries, and illnesses can result from:



falling on the same level, such as a slip or trip, or from one level to another, such as from scaffolding



6 (Slide Layer)

Types of Accidents, Injuries, and Illnesses

Click on each image to learn more

Anticipating and Recognizing Hazards in the Workplace

Accidents, injuries, and illnesses can result from:



overexertion, such as a stress or strain on the body from improper lifting or from repetitive motion



7 (Slide Layer)

Types of Accidents, Injuries, and Illnesses

Click on each image to learn more

Anticipating and Recognizing Hazards in the Workplace

Accidents, injuries, and illnesses can result from:



exposure to hazards, such as excessive noise, extreme temperatures, or chemical fumes or fibers



8 (Slide Layer)

Types of Accidents, Injuries, and Illnesses

Click on each image to learn more

Anticipating and Recognizing Hazards in the Workplace

Accidents, injuries, and illnesses can result from:



failure to stay hydrated-LANL has extremely low humidity




3.6 Electrical Safety

Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:

Click on each bullet to learn more



1

2

3

4

5

6

7

8

9

1 (Slide Layer)

Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:

[Click on each bullet to learn more](#)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

do not assume that any energy source is too small to hurt you

2 (Slide Layer)

Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:

[Click on each bullet to learn more](#)


- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

do not assume that equipment is turned off

3 (Slide Layer)

Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:



Click on each bullet to learn more


- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

turn off equipment before disconnecting it and before attempting to repair it or remove a jam

4 (Slide Layer)

Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:



Click on each bullet to learn more

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

disconnect equipment by the plug, not by the cord

5 (Slide Layer)


Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:

[Click on each bullet to learn more](#)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

do not use equipment with frayed cords or wires



6 (Slide Layer)


Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:

[Click on each bullet to learn more](#)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

use properly grounded (three-prong) plugs



7 (Slide Layer)

Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:

[Click on each bullet to learn more](#)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

do not “daisy-chain” extension cords or use them in place of permanent wiring. Only one extension cord is permitted between an outlet and an electrical appliance



8 (Slide Layer)

Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:

[Click on each bullet to learn more](#)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

do not overload electrical outlets or circuits



9 (Slide Layer)

Electrical Safety

Electricity is an invisible omnipresent hazard. Electrical hazards are present in high-voltage power lines, as well as in office equipment, such as printers, copiers, and shredders. When you work around electrical equipment, heed the following precautions:

[Click on each bullet to learn more](#)

1

2

3

4

5

6

7

8

9

keep electrical equipment, electrical outlets, and other power supplies clear of obstructions and away from plants and beverages



3.7 Lockout/Tagout Program

Lockout/Tagout Program

In addition to its Electric Safety program, LANL operates an energy-control program to protect employees from all types of hazardous energy, including mechanical, hydraulic, pneumatic, chemical, radiological, and thermal.

[Click on each button to learn more](#)

Core Driver

Program Details

What is LOTO?

3.8 Lockout/Tagout Function

Lockout/Tagout Function

The function of lockout/tagout is to protect two general categories of workers: affected and authorized.

Click on each button to learn more

Affected Worker

Authorized Worker

Where are Locks & Tags placed

You must recognize and observe your responsibilities for lockout/tagout for your own safety, as well as the safety of your coworkers. Ignoring lockout/tagout procedures has serious consequences for you and your coworkers. Any violation of a lockout/tagout procedure is subject to disciplinary action, up to and including termination.

3.9 Methods for Planning Safe Work

Methods for Planning Safe Work

All work at LANL, whether research and development, maintenance, or production, must follow the requirements outlined in P300, *Integrated Work Management*, and related work control documents. P300 outlines how to define work, analyze hazards, develop controls, perform work, and evaluate performance of work. The work planning method used to help meet these requirements is the IWD, which contains the following parts:

All Laboratory workers should take specific Integrated Work Management training for more details about this work-planning method.

P300 Integrated Work Management

Part 1 - Activity-Specific Information

Part 2 - Work-Area Information

Part 3 - Validation and Release Information
(followed by work execution)

Part 4 - Close-Out Information


3.10 Principles of Industrial Hygiene and Safety

Principles of Industrial Hygiene and Safety

Work planning involves the four principles of industrial hygiene and safety:

[Click on each word to learn more](#)

Recognition Anticipation
Control Evaluation



Notes:

Anticipation (Slide Layer)


Principles of Industrial Hygiene and Safety

Work planning involves the four principles of industrial hygiene and safety:

[Click on each word to learn more](#)

Recognition Anticipation
Control Evaluation

anticipation: the identification of hazards before an operation begins or a facility is constructed



Recognition (Slide Layer)


Principles of Industrial Hygiene and Safety

Work planning involves the four principles of industrial hygiene and safety:

[Click on each word to learn more](#)

Recognition **Anticipation**
Control **Evaluation**

recognition: the identification of hazards and their effects



Evaluation (Slide Layer)


Principles of Industrial Hygiene and Safety

Work planning involves the four principles of industrial hygiene and safety:

[Click on each word to learn more](#)

Recognition **Anticipation**
Control **Evaluation**

recognition: the identification of hazards and their effects



Control (Slide Layer)

Principles of Industrial Hygiene and Safety

Work planning involves the four principles of industrial hygiene and safety:

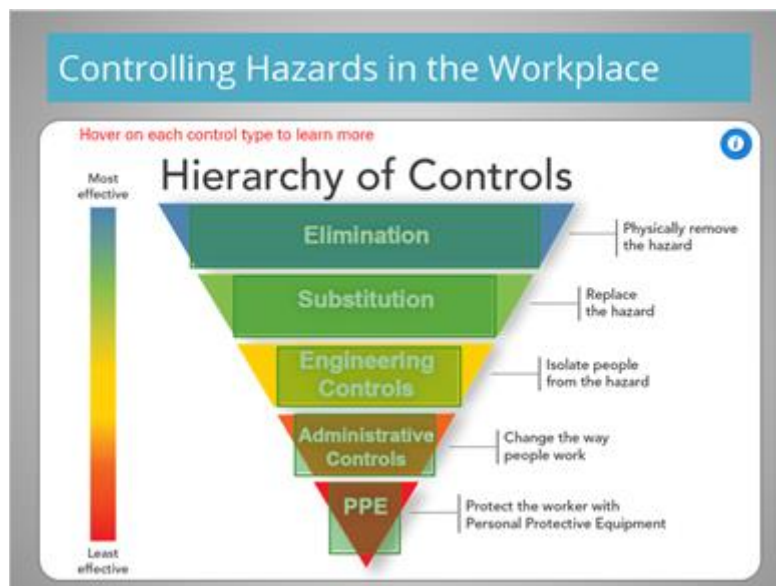
[Click on each word to learn more](#)

Recognition
Anticipation
Control
Evaluation

control: the implementation of specific requirements to eliminate or mitigate hazards and their effects

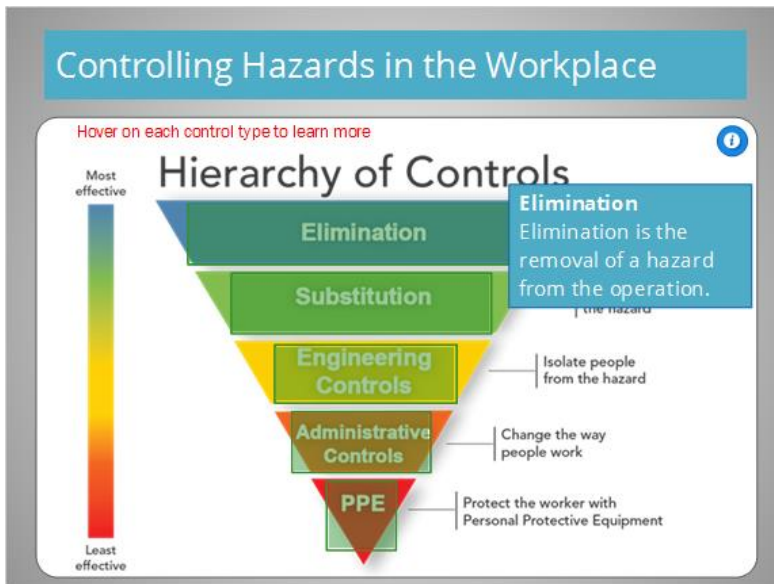


3.11 Controlling Hazards

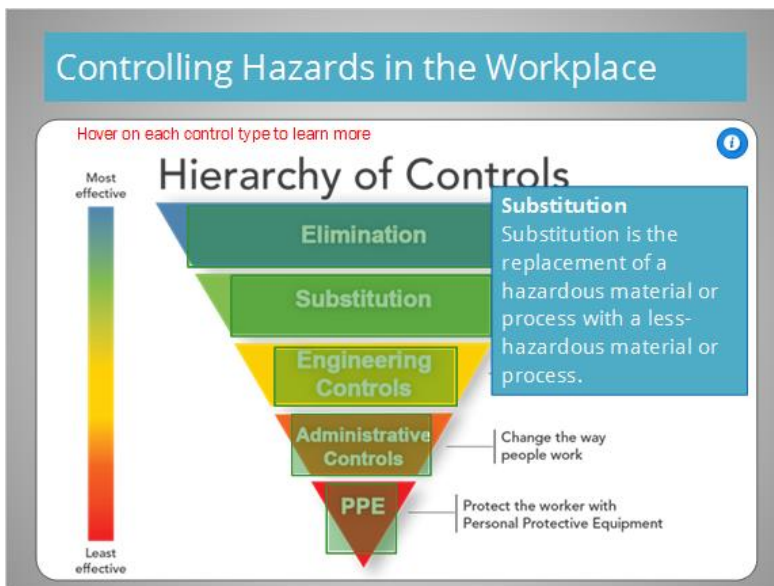


Notes:

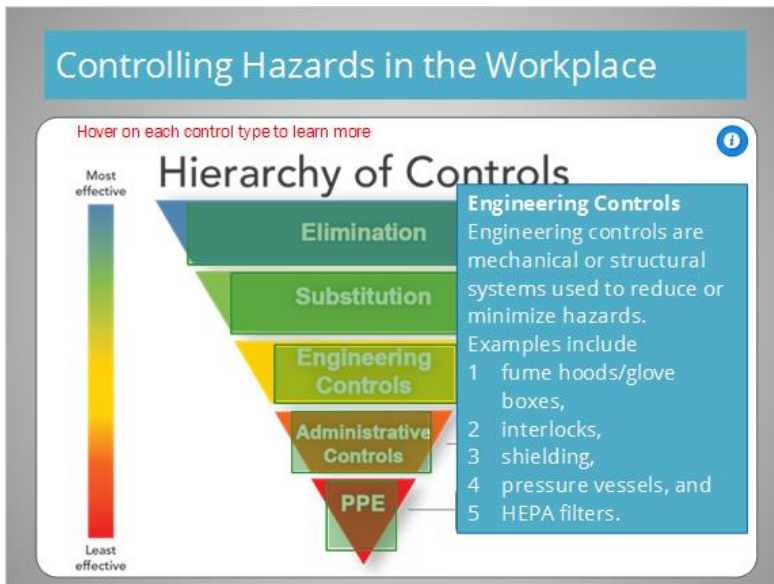
Elimination (Slide Layer)



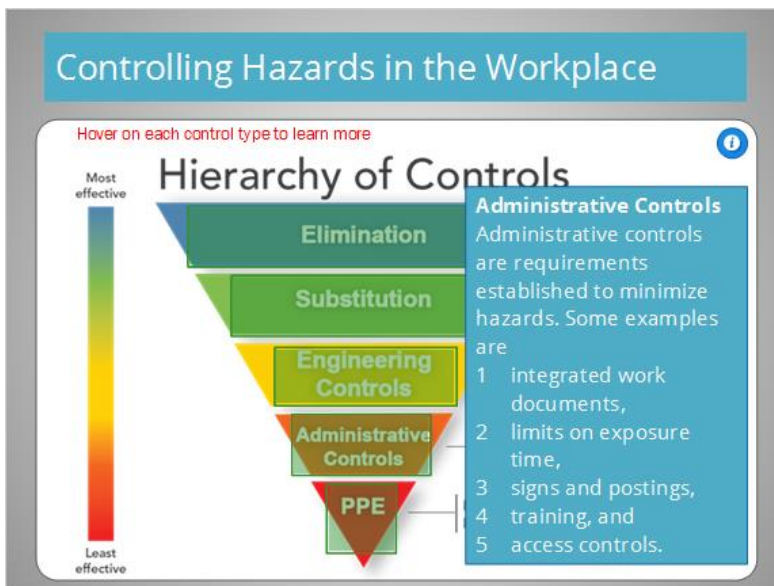
Substitution (Slide Layer)



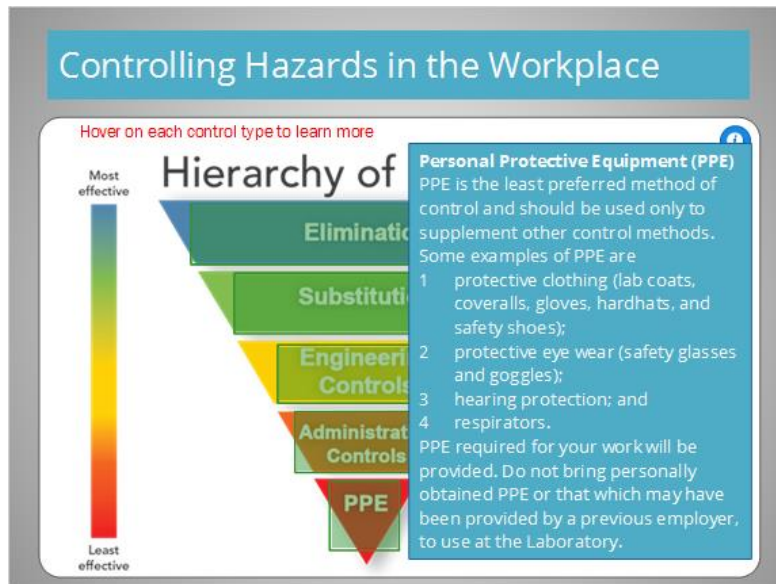
EngineeringControls (Slide Layer)



Administrative (Slide Layer)



PPE (Slide Layer)



3.12 What lies ahead

What Lies Ahead

In the next module, you'll learn more about radiological hazards, the limits and risks of exposure to ionizing radiation, radiological protection and controls, and what to do in the event of a radiological emergency.

But first, how about another quick knowledge check?



3.13 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

The goal of the Worker Safety and Health rule is to:

- ☒ Provide a workplace that is free from recognized and uncontrolled hazards
- ☐ Prevent government interference
- ☐ Prevent sexual harassment
- ☐ All listed

Correct	Choice
X	Provide a workplace that is free from recognized and uncontrolled hazards
	Prevent government interference
	Prevent sexual harassment
	All listed

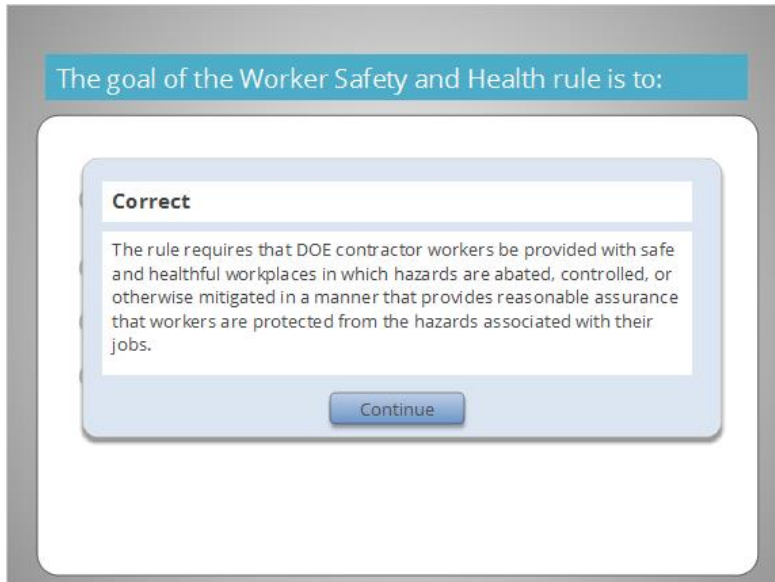
Feedback when correct:

The rule requires that DOE contractor workers be provided with safe and healthful workplaces in which hazards are abated, controlled, or otherwise mitigated in a manner that provides reasonable assurance that workers are protected from the hazards associated with their jobs.

Feedback when incorrect:

The rule requires that DOE contractor workers be provided with safe and healthful workplaces in which hazards are abated, controlled, or otherwise mitigated in a manner that provides reasonable assurance that workers are protected from the hazards associated with their jobs.

Correct (Slide Layer)



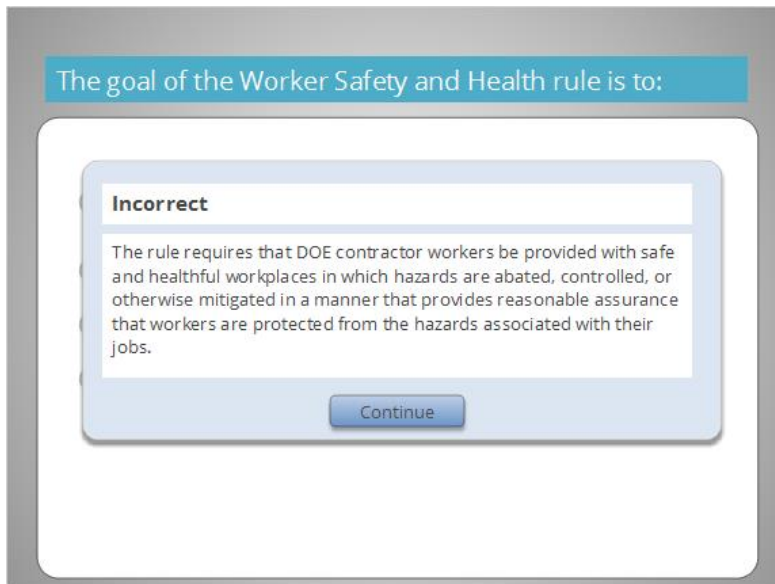
The goal of the Worker Safety and Health rule is to:

Correct

The rule requires that DOE contractor workers be provided with safe and healthful workplaces in which hazards are abated, controlled, or otherwise mitigated in a manner that provides reasonable assurance that workers are protected from the hazards associated with their jobs.

Continue

Incorrect (Slide Layer)



The goal of the Worker Safety and Health rule is to:

Incorrect

The rule requires that DOE contractor workers be provided with safe and healthful workplaces in which hazards are abated, controlled, or otherwise mitigated in a manner that provides reasonable assurance that workers are protected from the hazards associated with their jobs.

Continue

3.14 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

Of the following hazard control methods, which is the most preferred?

- ☐ Administrative controls
- ☐ PPE
- ☒ Elimination
- ☐ Substitution

Correct	Choice
	Administrative controls
	PPE
X	Elimination
	Substitution

Feedback when correct:

Eliminating a hazard from the operation is the most preferred administrative control.

Feedback when incorrect:

Eliminating a hazard from the operation is the most preferred administrative control.

Correct (Slide Layer)

Of the following hazard control methods, which is the most preferred?

Correct

Eliminating a hazard from the operation is the most preferred administrative control.

Continue

This screenshot shows a feedback slide for a correct answer. It features a blue header with the question, a white box with the word 'Correct' in bold, and a paragraph stating that eliminating a hazard is the most preferred administrative control. A 'Continue' button is at the bottom.

Incorrect (Slide Layer)

Of the following hazard control methods, which is the most preferred?

Incorrect

Eliminating a hazard from the operation is the most preferred administrative control.

Continue

This screenshot shows a feedback slide for an incorrect answer. It features a blue header with the question, a white box with the word 'Incorrect' in bold, and a paragraph stating that eliminating a hazard is the most preferred administrative control. A 'Continue' button is at the bottom.

3.15 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

Lockout/tagout procedures are used to prevent

- ☐ Injuries caused by the unexpected release of hazardous energy
- ☐ The unexpected startup of equipment or devices
- ☐ Access to restricted areas after hours
- ☒ Both; injuries caused by unexpected release of hazardous energy and the unexpected start up or equipment or devices

Correct	Choice
	Injuries caused by the unexpected release of hazardous energy
	The unexpected startup of equipment or devices
	Access to restricted areas after hours
X	Both; injuries caused by unexpected release of hazardous energy and the unexpected start up or equipment or devices

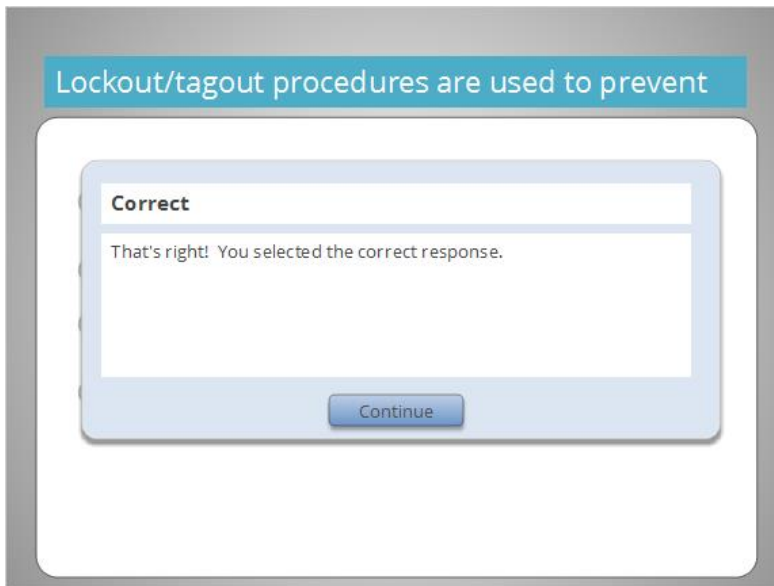
Feedback when correct:

That's right! You selected the correct response.

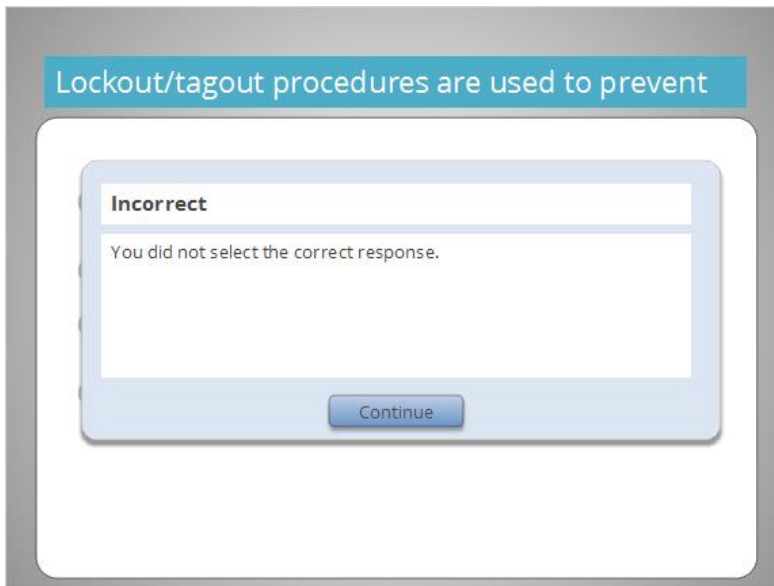
Feedback when incorrect:

You did not select the correct response.

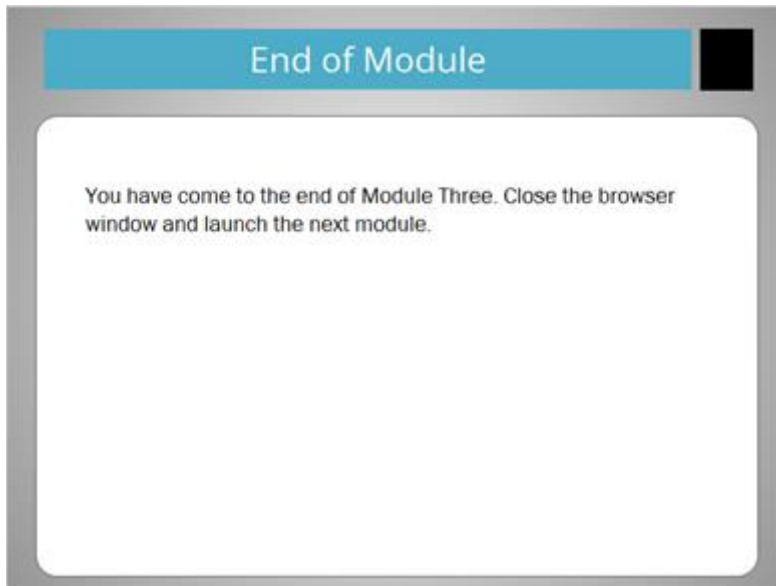
Correct (Slide Layer)



Incorrect (Slide Layer)



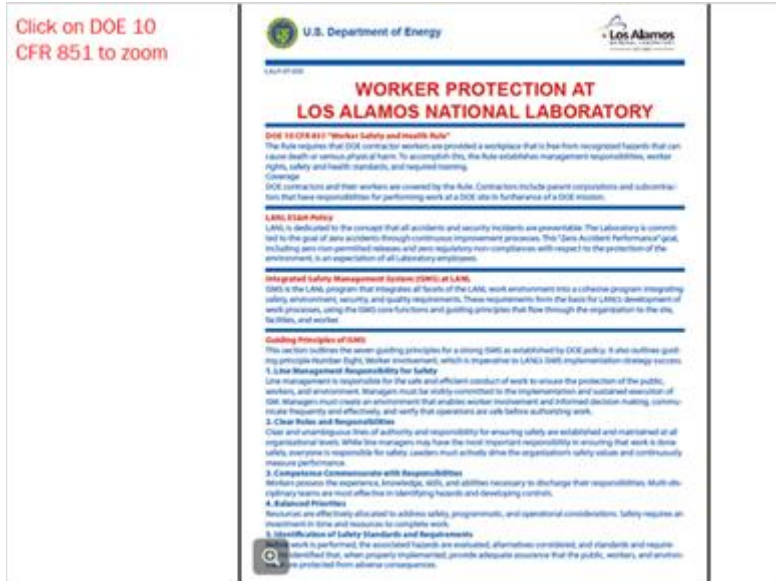
3.16 End of Course



Notes:

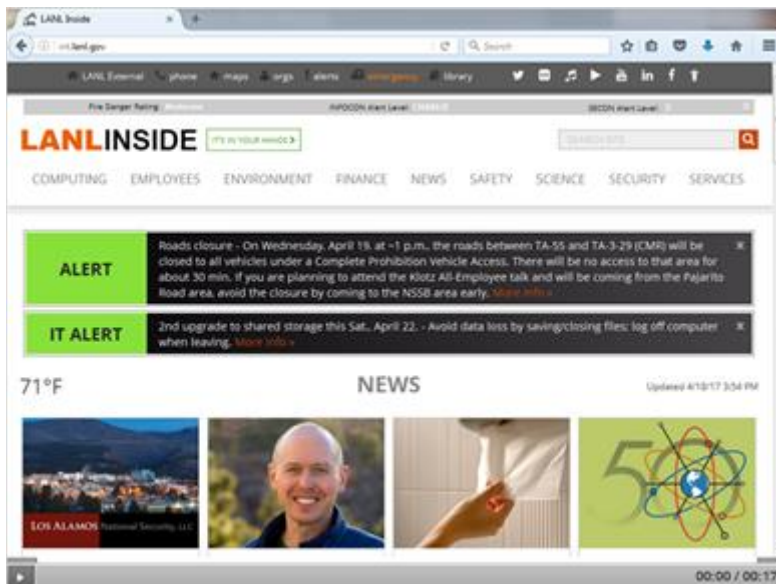
4. 851

4.1 DOE 10 CFR 851



5. Video Scene

5.1 Policy page



6. Untitled Scene

6.1 What Is LOTO?

What Is LOTO?

Lockout - The placement of a lock and tag by an authorized worker on an energy-isolating device in accordance with P101-3 to ensure that the equipment being controlled cannot be operated until the lock is removed.

Tagout - The placement of a tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.




6.2 Core Drivers

Core Drivers

A core driver for this program is OSHA standard 29 Code of Federal regulations (CFR) 1910.147, which requires the use of practices and procedures for isolating machines or equipment from their energy source before service and maintenance work is performed on any machine or equipment.

Generally, these procedures require the placement of locks and tags, called lockout/tagout, to prevent the unexpected energization, startup, or release of stored energy that could hurt employees who are working on equipment, machines, or systems.





The above video was produced at LANL.

6.3 Program Details

Program Details

The Laboratory's Energy Control program is established in P101-3, *Lockout/Tagout for Hazardous Energy Control*, which requires the use of locks AND tags. Tags alone are unacceptable, except in certain circumstances, such as when the energy-isolating device cannot physically be locked out.



6.4 Affected Worker

Affected Worker

An **affected** employee is an employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Regardless of your job at LANL, your work may require you to enter an area in which tags, with or without locks, are being used. Your entry into one of these areas will make you an affected worker. Your awareness of lockout/tagout procedures will help prevent workplace injuries.

As an affected worker, you must be able to recognize Laboratory locks and tags.

Never attempt to operate machines, equipment, or systems that are tagged or tagged and locked; and never remove or attempt to bypass locks and/or tags that have been placed on machines, equipment, or systems.

6.5 Authorized Worker

Authorized Worker

An **authorized** employee is anyone who locks out or tags out machines or equipment to perform service or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under the standard.

At LANL, authorized workers are appointed by line managers to service or maintain equipment, machinery, or systems and are trained in accordance with P101-3. Authorized workers may also be affected workers.

Only authorized workers conduct lockout/tagout procedures. Workers must follow the policy P101-3, *Lockout/Tagout for Hazardous Energy Control*. Before you are authorized to execute lockout/tagout, you must complete hands-on classroom lockout/tagout training.

6.6 Where Are Tags Placed?

Where Are Tags Placed?

Locks and tags can be found on circuit breakers, on/off switches, valves, or any device that turns off or secures a source of energy. For example, a lock and tag might be found on the circuit breaker in your building, on the power switch of a band saw, or on the valve of a sprinkler system.

Red locks and multiple-lock lockout devices are used with red tags that read DANGER-DO NOT OPERATE. These red locks and red tags are the only such devices allowed for use at LANL for the control of hazardous energy. Do not tamper with the lock. That red lock/red tag is there to protect someone's life. If, as an affected worker, you see any locks of a different color in a lockout/tagout situation, consult your supervisor.



7. Anticipating Hazards


7.1 Anticipating and Recognizing Hazards in the Workplace

Anticipating and Recognizing Hazards in the Workplace

Identifying hazards is integral to maintaining a safe and healthy workplace. You should be alert to any hazards in your work area and help identify any hazards in your work activities. Using observations (seeing, smelling, and hearing) and noticing body signs and symptoms will aid in recognizing hazards.

The severity of a hazard is affected by workplace conditions and the conditions of exposure to the hazard. For example, the amount of stored energy in a pressure system, the type of unguarded rotating equipment, the height of an elevated working surface, or the voltage of an energized system affects the severity of the hazards present.

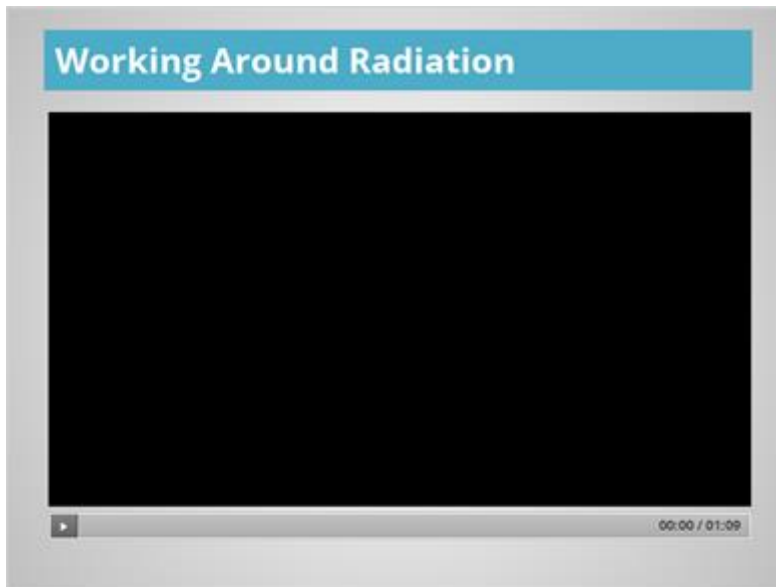
The types of chemicals present and conditions of exposure can also influence hazard severity. Exposure conditions include the route of entry into the body, concentration, exposure time, and individual susceptibility.

An illustration showing four safety-related items: a yellow triangular warning sign with a black radiation symbol, a pair of blue headphones, an orange hard hat, and a pair of blue safety glasses. To the right of these items is a yellow diamond-shaped warning sign with a black skull and crossbones symbol.

Module Four - GERT

1. Working around Radiation


1.1 Introduction



Notes:

1.2 Atoms, Isotopes, and Decay

Atoms, Isotopes, and Decay



Atoms

The fundamental unit of all matter in the universe is the atom. Atoms contain three basic parts, called particles. These subatomic particles include protons, neutrons, and electrons. Neutrons determine the nuclear properties of an element, whereas electrons determine its chemical properties.


Atoms

Isotopes

Decay

Isotopes (Slide Layer)

Atoms, Isotopes, and Decay



Isotopes

Isotopes are two or more forms of the same element that contain equal numbers of protons but different numbers of neutrons. These too can have stable or unstable (radioactive) forms. As a result, isotopes do not differ from the element in their chemical properties but are different nuclear forms of an element.

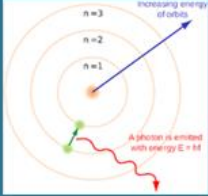
Atoms

Isotopes

Decay

Decay (Slide Layer)

Atoms, Isotopes, and Decay



Decay

And although certain combinations of neutrons and protons result in a stable atom, too many or too few neutrons for a given number of protons result in an unstable (or radioactive) atom. These radioactive atoms can be either naturally occurring or manmade. In trying to become a stable atom, an unstable atom will release energy. This release of energy in the form of particles or waves is called radiation. This process, or capability, of certain atoms to emit radiation as they decay is called radioactivity.

Atoms

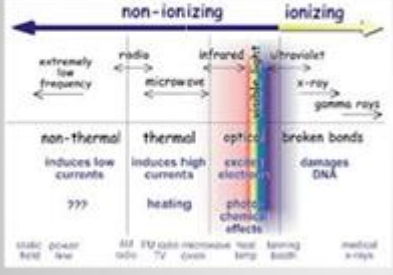
Isotopes

Decay

1.3 Radiation

Radiation

For the purposes of this training, the two general forms of radiation are ionizing and nonionizing.




non-ionizing				ionizing	
extremely low frequency	radio	infrared	visible	ultraviolet	x-ray, gamma rays
non-thermal	thermal	optical	broken bonds		
induces low currents	induces high currents	excites electrons	damages DNA		
???	heating	photochemical effects			
static field	power line	AM radio	TV, microwave oven, hair dryer, tanning booth	medical x-rays	

Ionization is the process of changing the number of electrons associated with an atom, resulting in a charged atom called an ion. Ionizing radiation contains enough energy to ionize, or create charged atoms. Examples of ionizing radiation include alpha, beta, neutron, and gamma or x-ray.

Nonionizing radiation does not contain enough energy to strip electrons from atoms. Examples of nonionizing radiation include visible light, radio waves, and microwaves. In this training we are concerned almost exclusively with ionizing radiation.

1.4 Radiation, continued

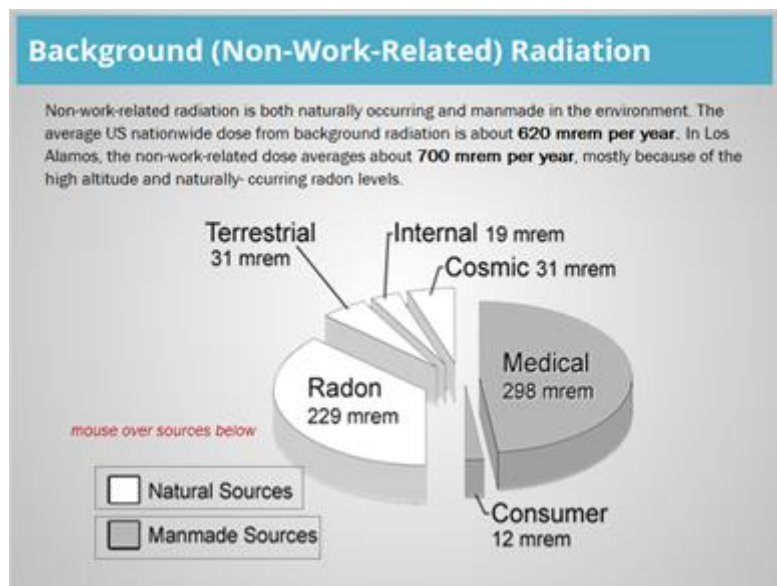
Radiation, continued



The amount of energy from ionizing radiation that a person absorbs from radiation sources is called a radiation dose. This dose can be measured using radiation dosimetry and is reported in terms of rems or millirems (mrems), which is the unit of measurement that considers the biological damage to the human body.

Ionizing radiation is present at the Laboratory as both generated and background radiation. Generated radiation is energy in the form of particles or waves from artificial or natural sources that can be used in research applications. Common sources of radiation at the Laboratory include radioactive materials and particle accelerators used in national security, medical, and scientific research activities.


1.5 Background (Non-Work-Related) Radiation



Naturally (Slide Layer)

Background (Natural Sources)

50% of annual radiation dose is from natural sources.



Natural Radiation Dose, 310 mrem/year = 50% of Total

Naturally occurring background radiation comes from

- cosmic rays from the sun and stars-the thinner atmosphere at higher altitudes provides less shielding from cosmic rays;
- radioactive materials in the earth-uranium, thorium, and radium are found in soil, rocks, and water;
- radioactive materials in the body, such as potassium-40, which occurs naturally in foods;
- radioactive materials in the air-for example, radon gas, which comes from the decay of uranium and thorium, is present in the air and can travel through the soil to collect in the home; and
- cigarette smoking (one pack a day)-contributes an additional annual dose of about 1300 mrem from breathing naturally occurring radioactive particles found in tobacco.

☐ Natural Sources

☐ Manmade Sources

Consumer 12 mrem

Manmade (Slide Layer)

Background (Non-Work-Related Radiation)

Non-work-related radiation is both natural and manmade. The average US nationwide dose from background radiation is about 3.6 mSv (360 mrem) per year. At Alamos, the non-work-related dose average is about 5.4 mSv (540 mrem) per year due to high altitude and naturally-occurring radon.

Terrestrial 31 mrem

Radon 2280 mrem

Consumer 12 mrem


mouse over sources below

☐ Natural Sources

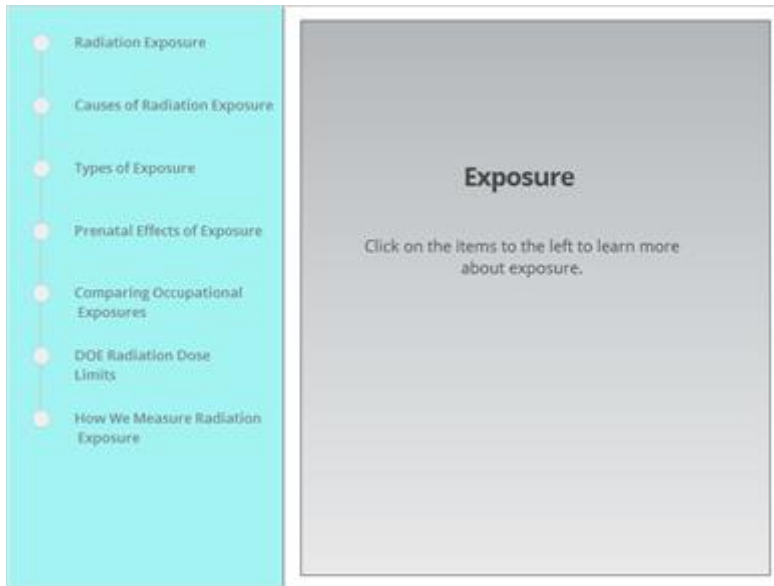
☐ Manmade Sources

Manmade background radiation comes from

- medical procedures, such as dental x-rays, diagnostic tests, and radiation therapy;
- consumer products, including building materials; and
- industrial uses, such as radiography or soil density meters.



1.6 Radiation Exposure



Notes:

The Timeline interaction lets learners discover the events on a timeline.

Use the Timeline interaction to:

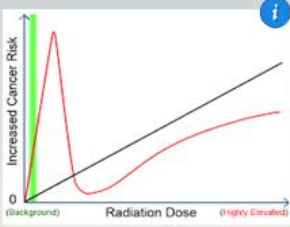
- Walk through a series of periods and events.
- Highlight key milestones in a schedule.
- Explain the steps in a sequence.

Exposure (Slide Layer)

- Radiation Exposure
- Causes of Radiation Exposure
- Types of Exposure
- Prenatal Effects of Exposure
- Comparing Occupational Exposures
- DOE Radiation Dose Limits
- How We Measure Radiation Exposure

Radiation Exposure

Exposure to ionizing radiation can be hazardous to human health. The ionization of atoms in a human cell can cause chemical changes within the body, including cell damage. At low doses, cells may repair the damage with no lasting effects. If the damage is great enough, the cell will die. Damage to the cell's nucleus can alter the cell's chromosomes, with possible mutations of the cells. Radiation effects that appear in the exposed person are called somatic effects. Any effects that appear in the descendants of the exposed person are called heritable effects.




causes-2 (Slide Layer)

- Radiation Exposure
- Causes of Radiation Exposure
- Types of Exposure
- Prenatal Effects of Exposure
- Comparing Occupational Exposures
- DOE Radiation Dose Limits
- How We Measure Radiation Exposure

Causes of Radiation Exposure

External exposure to radiation alone does not result in contamination. Radiation is ionizing energy, whereas contamination is loss of control of a material that emits radiation. For example, you do not become contaminated with external exposure to x-rays.

Radiation is like the heat you feel from a campfire; contamination is like the glowing embers from the campfire landing on your clothes.



Radioactive contamination at LANL is radioactive material in an undesirable or non-contained location, such as outside the glovebox or hood in which the material is being handled; in homes or offices; or in the soil, air, or other areas of the environment. Any contained radioactive material, although it emits radiation, is not contamination.

types-3 (Slide Layer)

- Radiation Exposure
- Causes of Radiation Exposure
- Types of Exposure
- Prenatal Effects of Exposure
- Comparing Occupational Exposures
- DOE Radiation Dose Limits
- How We Measure Radiation Exposure

Types of Exposure

Click on the buttons below


Acute Exposure

Chronic Exposure

prenatal-4 (Slide Layer)

- Radiation Exposure
- Causes of Radiation Exposure
- Types of Exposure
- Prenatal Effects of Exposure
- Comparing Occupational Exposures
- DOE Radiation Dose Limits
- How We Measure Radiation Exposure


Prenatal Effects of Exposure



The embryo/fetus is especially sensitive to radiation because its cells are dividing rapidly. The degree and kind of radiation damage are dependent on the stage of development of the embryo.

High doses of radiation can result in miscarriage, a low birth weight, mental retardation, birth defects, and an increased risk of developing cancer and other diseases.

Because the effects of low doses of radiation are not precisely known, it is wise to avoid any unnecessary radiation exposure during pregnancy.

Reporting a Pregnancy 

occupational-5 (Slide Layer)

- Radiation Exposure
- Causes of Radiation Exposure
- Types of Exposure
- Prenatal Effects of Exposure
- Comparing Occupational Exposures
- DOE Radiation Dose Limits
- How We Measure Radiation Exposure

Comparing Occupational Exposures

An average radiation dose received from occupational exposure by DOE employees and site workers is about 63 mrem per year. The following chart compares this amount with the average radiation doses received by workers in other occupations. These work-related doses are calculated in addition to background radiation doses.

Occupation	Average Radiation Dose (mrem per year)
DOE employees and site workers (radiological work activities)	63
medical personnel (patient diagnosis/treatment)	70
nuclear power plant workers (radiological work activities)	300
airline flight crew (cosmic radiation)	400-600

dose-limits-6 (Slide Layer)

- Radiation Exposure
- Causes of Radiation Exposure
- Types of Exposure
- Prenatal Effects of Exposure
- Comparing Occupational Exposures
- DOE Radiation Dose Limits
- How We Measure Radiation Exposure

DOE Radiation Dose Limits

The DOE sets limits on the maximum radiation dose that workers, visitors, and the public are allowed to receive in a given period as a result of exposure from DOE sites. Radiation dose limits, as set forth in 10 CFR 835, are based on guidance from the International Commission on Radiological Protection, the National Council on Radiation Protection and Measurement, and the Environmental Protection Agency (EPA). The DOE's annual radiation dose limits are listed in the following chart. These limits are calculated in addition to background radiation doses and include both external and internal doses.

DOE Annual Radiation Dose Limits		
	rem per year	mrem per year
Radiological Workers	5	5000
Embryo/Fetus (term of pregnancy)	0.5	500
Visitors and the Public	0.1	100

Measure (Slide Layer)

The slide layer consists of a light blue sidebar on the left and a grey main content area on the right. The sidebar contains a vertical list of eight items, each with a pink circular bullet point: 'Radiation Exposure', 'Causes of Radiation Exposure', 'Types of Exposure', 'Prenatal Effects of Exposure', 'Comparing Occupational Exposures', 'DOE Radiation Dose Limits', and 'How We Measure Radiation Exposure'. The main content area has a title 'How We Measure Radiation Exposure' and a paragraph explaining that special detection and dosimetry devices are used to detect radiation and radioactive material. Below the paragraph are four blue buttons, each with a question mark icon: 'External Monitoring', 'Internal Monitoring', 'Radiation Dose Reports', and 'Enrolling in a Monitoring Program'.

How We Measure Radiation Exposure

At the Laboratory, special detection and dosimetry devices are used to detect radiation and radioactive material. If you work on, with, or near radioactive material or radiation-generating devices, you must be monitored to determine the radiation dose you have received in the workplace.

External Monitoring

Internal Monitoring

Radiation Dose Reports

Enrolling in a Monitoring Program

Acute exposure (Slide Layer)

The slide layer consists of a light blue sidebar on the left and a white main content area on the right. The sidebar contains a vertical list of eight items, each with a pink circular bullet point: 'Radiation Exposure', 'Causes of Radiation Exposure', 'Types of Exposure', 'Prenatal Effects of Exposure', 'Comparing Occupational Exposures', 'DOE Radiation Dose Limits', and 'How We Measure Radiation Exposure'. The main content area has a title 'Acute exposure' and a paragraph explaining that acute exposure occurs when a dose of radiation is received in a short period, typically from seconds to days. It also lists examples of acute, high-level exposure: the localized dose received during medical radiation therapy and the whole-body dose received by atomic bomb survivors. Below the paragraph is a blue button labeled 'Back'.

Acute exposure occurs when a dose of radiation is received in a short period—typically from seconds to days. An acute, high-level dose causes physical effects because the body cannot repair or replace cells fast enough. Most effects from acute, high-level exposure appear within minutes to weeks, depending on the dose received. Examples of acute, high-level exposure are:

- the localized dose received during medical radiation therapy and
- the whole-body dose received by atomic bomb survivors.

Back

Chronic exposure (Slide Layer)




The interface for the 'Chronic exposure' slide layer. On the left is a vertical navigation menu with eight items, each preceded by a pink circle: 'Radiation Exposure', 'Causes of Radiation Exposure', 'Types of Exposure', 'Prenatal Effects of Exposure', 'Comparing Occupational Exposures', 'DOE Radiation Dose Limits', and 'How We Measure Radiation Exposure'. The 'Types of Exposure' item is highlighted with a blue background. To the right of the menu is a large blue rectangular area containing text. At the bottom of this area is a small blue button with the word 'Back' in white text.

Chronic exposure occurs when a dose of radiation is received over a long period, typically from months to years. A chronic, low-level dose is usually less harmful than an acute dose because the body has time to repair or replace damaged cells. The effects, if any, of chronic, low-level exposure may not appear until years after exposure. Examples of chronic, low-level exposure are the dose received from background radiation and the dose typically received from occupational exposure.

A somatic effect from chronic, low-level exposure may be a slight increase in the risk of developing cancer. The exact increase in the risk of cancer is not known. The increase in risk at occupational levels of exposure is too small to measure and must be estimated based on individuals who have received very high exposures.

Back

report-pg (Slide Layer)



The interface for the 'report-pg' slide layer. It features a vertical navigation menu on the left with eight items, each preceded by a pink circle: 'Radiation Exposure', 'Causes of Radiation Exposure', 'Types of Exposure', 'Prenatal Effects of Exposure', 'Comparing Occupational Exposures', 'DOE Radiation Dose Limits', and 'How We Measure Radiation Exposure'. The 'Types of Exposure' item is highlighted with a blue background. To the right of the menu is a large blue rectangular area containing text. At the bottom of this area is a small blue button with the word 'Back' in white text.

If you are pregnant or are considering becoming pregnant and could be exposed to radiation in the workplace, you are encouraged to notify Occupational Health (OH) in writing. This declaration is voluntary and may be revoked in writing any time by the declared pregnant worker.

Once a female worker submits a written declaration of pregnancy with OH, she is considered to be a declared pregnant worker. The Reproductive Health Assistance Program (RHAP) will evaluate your work situation to determine if your job tasks must be modified to minimize exposure and will provide the option of a reassignment of job tasks.

Declared pregnant workers are protected from discrimination by Title VII of the Civil Rights Act of 1964, as amended, while you are reassigned to tasks in which exposure to occupational radiation is unlikely.

Back

1.7 ALARA


ALARA

The Goal of the ALARA Program

Is to reduce external and internal radiation exposures to a level that is **as low as reasonably achievable** (ALARA) and well below the DOE limits. Management and radiological control personnel establish policies and procedures for the ALARA Program. However, you, the individual worker, are responsible for keeping your personal radiation dose ALARA.

Click captions.

Reducing External Dose





Reducing Internal Dose

Notes:

1.8 Controls and Postings for Protection

Controls and Postings for Protection

In support of the ALARA concept, LANL uses various radiological controls to protect workers from exposure to radiation. All areas, materials, and machines that are controlled for radiological purposes are identified by posted signs, tags, or labels, combined with physical barriers where appropriate. The standard radiation caution symbol (trefoil), with the unique color combination of black or magenta on a yellow background, makes radiological hazards easier to recognize.



1.9 Controlled Areas

Areas Controlled for Radiological Purposes

Established by DOE in 10 CFR 835, areas controlled for radiological purposes are based on the potential for external radiation exposure and/or the potential for contamination.

Types of Areas

Controlled Areas

Radiological Buffer Areas

Radiological Areas

Legacy Controlled Areas

1.10 Recognizing Radiological

Recognizing Radiological Hazards

Areas or materials that are controlled for radiological purposes are identified by one or more of the following:

- yellow and black signs bearing the trefoil with the appropriate radiological control information, posted at areas where radiological hazards exist;
- black or magenta on yellow tags and labels bearing the trefoil that identify specific radiological hazards within an area controlled for radiological purposes;
- yellow and magenta ropes, tapes, chains, or other barriers that define the boundaries of posted areas; and
- yellow plastic wrapping or labeled containers, bearing the trefoil, that package radioactive material.

Radiological Postings at the Laboratory

NOTICE
RADIOLOGICAL HAZARD
CONTROLLED AREA
Excludes Controlled Areas, Radiological Areas, and Legacy Controlled Areas
DO NOT ENTER WITHOUT AUTHORIZATION

CAUTION
RADIOLOGICAL HAZARD
RADIOLOGICAL BUFFER AREA
Excludes Controlled Areas, Radiological Areas, and Legacy Controlled Areas
DO NOT ENTER WITHOUT AUTHORIZATION

Notes:

1.11 Entering Radiological Areas

Entering Radiological Areas

Specific training is required to enter (without a qualified escort) different areas controlled for radiological purposes. The DOE divides the workforce into general employee and radiological worker categories. Completing General Employee Radiological Training (GERT), passing the GET exam, and completing required facility and job-specific training allow unescorted entry into a controlled area. Other radiological areas require additional training, such as Radiological Worker II. Unless qualified by Radiological Worker Training, workers must retake the GERT exam every 24 months.

This required training ...	allows unescorted entry into a ...
General Employee Radiological Training	Controlled Area
Radiological Worker I Training*	Controlled Area Radiological Buffer Area Radiation Area High Radiation Area
Radiological Worker II Training	Controlled Area Radiological Buffer Area Radiation Area High Radiation Area Very High Radiation Area Contamination Area High Contamination Area Soil Contamination Area Airborne Radioactivity Area


*LANL offers GERT and Radiological Worker II training programs

1.12 Responsibilities

Responsibilities

Laboratory managers must

- help ensure that radiation doses received by workers, visitors, and the public are kept ALARA;
- determine which workers require dosimetry;
- identify radiological workers;
- ensure that their workers have completed appropriate radiological safety training; and
- establish radiological control programs at their facilities.



1.13 Responsibilities

Responsibilities



Your Responsibilities

You are responsible for keeping your personal radiation dose ALARA. **You must**


- obey all radiological signs and postings;
- follow all radiological and safety rules and procedures, including integrated work documents (IWDs) and radiological work permits (RWPs);
- enter areas controlled for radiological purposes only if properly trained or escorted and only when necessary for your work;
- use ALARA techniques to reduce the dose;
- report unusual radiological situations to your supervisor and the radiological control technician (RCT) assigned to your work area;
- be aware of emergency procedures for your work area; and
- refresh GERT every 24 months, unless you upgrade to Radiological Worker Training, to continue access into a controlled area.

1.14 Emergency Information

Emergency Information

Organization • PRODUCT • DOCUMENT • NCSS

Nuclear Criticality Safety



Nuclear Criticality

Some nuclear materials are fissile materials, which means that if concentrated in a solution or brought closely together as solids in sufficient quantity, they spontaneously emit harmful levels of radiation. Although criticality experiments are conducted as part of the Laboratory's scientific research, a criticality accident results when it occurs in an uncontrolled environment.


A criticality accident is a very localized event, causing injury or death to individuals in the immediate area from an acute, high-level dose of radiation, but typically not causing a physical explosion or equipment damage.

The control of fissile materials to prevent such accidents is called nuclear criticality safety. The Laboratory's Nuclear Criticality Safety (NCS) Division provides nuclear criticality safety expertise to all Laboratory facilities where plutonium and uranium are handled.

If your job assignment involves working with or near fissile materials, you will receive additional training on nuclear criticality safety.

1.15 Emergency Information

Emergency Information



Information Specific to Facilities and Work Areas
Emergency procedures and alarms at the Laboratory vary for different facilities and work areas. You should know

- the emergency procedures specific to your work area,
- the warning sirens or alarms specific to your work area, and
- how to contact the RCT assigned to your work area.

In an emergency, call 911

1.16 What Lies Ahead

What Lies Ahead

In the next module, we will look at the services, procedures, and responsibilities related to Occupational Health (OH) at LANL.

Before you proceed, put your knowledge to the test by answering the following questions.

1.17 knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

All but one of the following contributes to naturally occurring background radiation. The exception is

- ☐ radon gas in the air
- ☐ cosmic rays from the sun and stars
- ☒ medical radiation therapy
- ☐ uranium in the soil

Correct	Choice
	radon gas in the air
	cosmic rays from the sun and stars
X	medical radiation therapy
	uranium in the soil

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)

All but one of the following contributes to naturally occurring background radiation. The exception is

- ☐ radon gas in the air
- ☐ cosmic rays
- ☒ man-made sources
- ☐ uranium

Correct

That's right! You selected the correct response.

Continue

Incorrect (Slide Layer)

All but one of the following contributes to naturally occurring background radiation. The exception is

- ☐ radon gas in the air
- ☐ cosmic rays
- ☒ man-made sources
- ☐ uranium

Incorrect

You did not select the correct response.

Continue

1.18 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

External exposure to radiation

- ☐ can be detected with the human sense
- ☒ does not result in contamination of the worker
- ☐ can be reduced by wearing proper dosimetry
- ☐ causes higher birth weights in babies

Correct	Choice
	can be detected with the human sense
X	does not result in contamination of the worker
	can be reduced by wearing proper dosimetry
	causes higher birth weights in babies

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)

External exposure to radiation

- ☐ can be detected with the human sense
- ☒ does not result in contamination of the worker
- ☐ can be detected with a Geiger counter
- ☐ can be detected with a dosimeter

Correct

That's right! You selected the correct response.

Continue

Incorrect (Slide Layer)

External exposure to radiation

- ☐ can be detected with the human sense
- ☒ does not result in contamination of the worker
- ☐ can be detected with a Geiger counter
- ☐ can be detected with a dosimeter

Incorrect

You did not select the correct response.

Continue

1.19 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

The maximum radiation dose a visitor to the Laboratory or a member of the public is allowed to receive annually is

- ☒ 100 mrem
- ☐ 5 rem
- ☐ 50 rem
- ☐ 15,000 mrem

Correct	Choice
X	100 mrem
	5 rem
	50 rem
	15,000 mrem

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)

The maximum radiation dose a visitor to the Laboratory or a member of the public is allowed to receive annually is

- ☒ 100 mrem
- ☐ 5 mrem
- ☐ 50 mrem
- ☐ 15 mrem

Correct

That's right! You selected the correct response.

Continue

Incorrect (Slide Layer)

The maximum radiation dose a visitor to the Laboratory or a member of the public is allowed to receive annually is

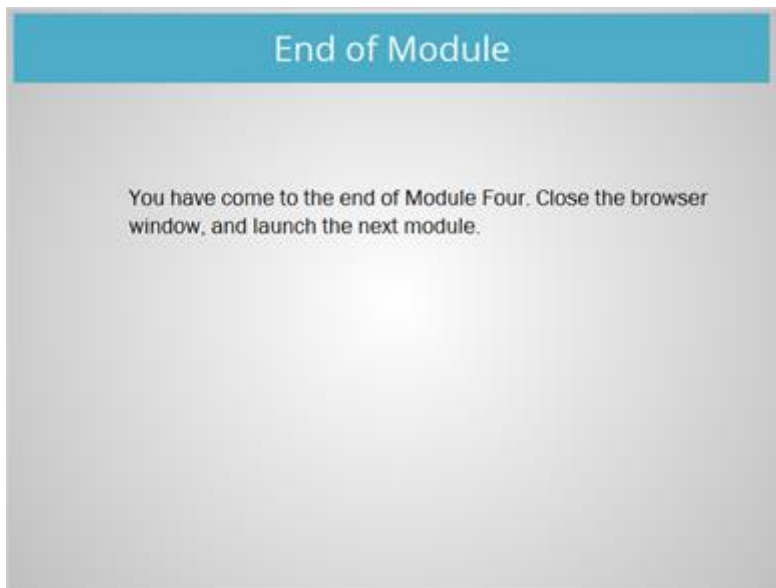
- ☒ 100 mrem
- ☐ 5 mrem
- ☐ 50 mrem
- ☐ 15 mrem

Incorrect

You did not select the correct response.

Continue

1.20 End of Module



Notes:

2. media

2.1 reducing external

Reducing External Dose

The external dose is reduced by the following basic protective measures:

- minimizing the time spent near the source of radiation,
- maximizing the distance from the source of radiation, and
- using shielding between the body and the source of radiation.

The diagram illustrates three methods to reduce external radiation dose. 1. Minimize Time: A person is shown with a clock icon, indicating the importance of reducing the duration of exposure. 2. Maximize Distance: A person is shown with a dashed line representing the distance from a radiation source, indicating that increasing distance reduces dose. 3. Use Shielding: A person is shown behind a lead wall, which acts as a barrier between them and the radiation source.

2.2 reducing internal dose

Reducing Internal Dose

Your internal dose is reduced by the control methods that keep radioactive materials from entering the body through the lungs, mouth, or skin, including

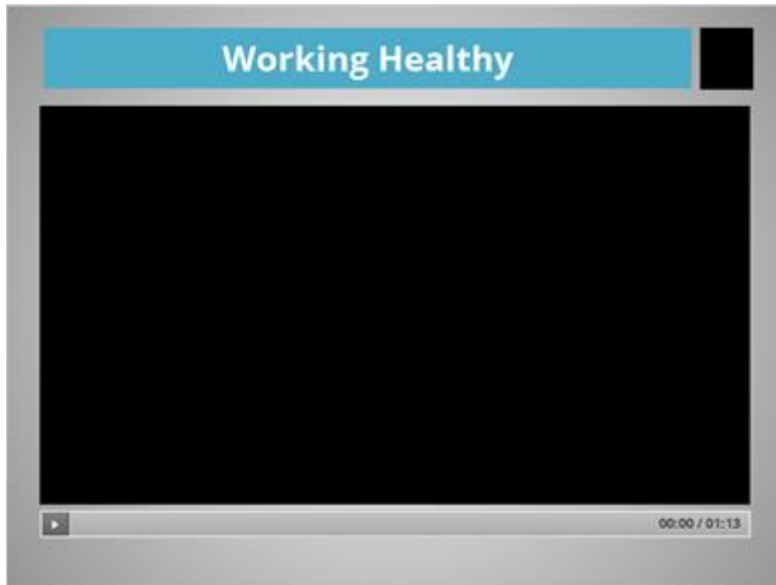
- engineering controls (gloveboxes, hoods, and ventilation systems);
- administrative controls [work control procedures, radiological work permits (RWPs), and work practices]; and
- PPE (coveralls, gloves, booties, hats, and respirators).

The diagram illustrates three methods to reduce internal radiation dose. 1. Engineering: A glovebox is shown, which is a controlled environment used to handle radioactive materials. 2. Administrative: A log sheet is shown, which is used to track and record work activities and exposures. 3. PPE: A person is shown wearing a full-body protective suit, which is used to prevent radioactive materials from entering the body through the skin.

Module Five - Working Healthy

1. Occupational Health

1.1 Introduction



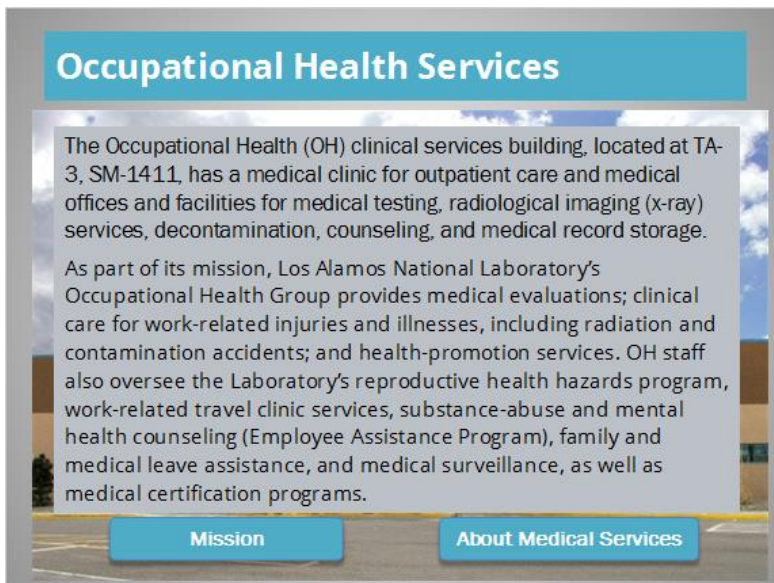
Notes:

1.2 Occupational Health Services



Notes:

Mission (Slide Layer)



Medical Services (Slide Layer)



Occupational Health Services

The Occupational Health (OH) clinical services building, located at TA-3, SM-1411, has a medical clinic for outpatient care and medical offices and facilities for medical testing, radiological imaging (x-ray) services, decontamination, counseling, and medical record storage.

All medical services offered by OH are available to Laboratory employees. Services to contract workers vary with contracts between their employers and the Laboratory. Contract workers should ask their employers about available services.

[Mission](#) [About Medical Services](#)

1.3 Medical Evaluations



Medical Evaluations

All Lab employees must comply with all health evaluation requirements. Contract workers may be required to participate in some Laboratory-specific medical surveillance and certification evaluations.

Click on each button to learn about new hire evaluations and medical leave:

[New-Hire Evaluations](#) [Medical Leave](#)

1.4 Other Evaluations

Other Evaluations

Some job assignments require periodic medical surveillance or certification evaluations. For example,

- 1 individuals who work with asbestos, with identified carcinogens, or in high-noise areas are monitored for early signs of health effects; and
- 2 commercial truck drivers, respirator users, and security personnel are evaluated to ensure that their health meets job-performance standards before they are certified for their particular jobs.

Click on each button to learn about fitness for duty evals, and termination evals.

[Fitness-for-Duty Evaluations](#)

[Termination Evaluations](#)

1.5 Work-Related Injuries or Illnesses

Work-Related Injuries or Illnesses

Occupational Health medical providers perform initial care and follow-up treatment for work-related injuries and illnesses of LANL employees, Maintenance and Site Services, Protective Force, Los Alamos Fire Department, and DOE/NNSA Los Alamos Field Office workers. The OH staff works closely with the worker's compensation specialists and the Early Return to Work coordinator.



[Contract Workers](#)

Click button to learn about contract workers

1.6 Reporting Work-Related Injuries & Illnesses

Reporting Work-Related Injuries and Illnesses

All work-related injuries or illnesses must be reported to your supervisor. During work hours, go to the OH building for evaluation and treatment. For nonemergency injuries or illnesses, LANL employees must be evaluated initially by OH staff before being treated elsewhere for an occupational injury/illness. Employees of subcontractors are urged to go to Occupational Health (OH), but may use their own emergency service. During normal working hours, report to the OH clinic for evaluation. Your manager/designee should accompany you. After hours, on weekends, or offsite, call OH (24 hours/day) to reach the on-call provider for direction regarding where and when to report for evaluation and treatment.

Click on each button to learn more

[When to call 911](#)[Before returning to work](#)



1.7 Ergonomics & Services for Persons w/ Disabilities

Ergonomics and Services for Persons with Disabilities

Because injuries can develop following repetitive activities, such as typing, lifting, bending, and twisting the back and upper extremities, LANL provides ergonomics services to help reduce or eliminate work-related factors that can cause these injuries. These services include: [Click on each button to learn more](#)

[1](#)[2](#)[3](#)[4](#)[5](#)[6](#)

LANL also has systems in place to assist anyone onsite with temporary or permanent disabilities. OH can help with requests for work adjustments or reasonable accommodations of temporary or permanent disabilities.

1 (Slide Layer)

Ergonomics and Services for Persons with Disabilities

Because injuries can develop following repetitive activities, such as typing, lifting, bending, and twisting the back and upper extremities, LANL provides ergonomics services to help reduce or eliminate work-related factors that can cause these injuries. These services include: [Click on each button to learn more](#)

1

2

3

4

5

6

1. individual worksite ergonomic evaluations

LANL also has systems in place to assist anyone onsite with temporary or permanent disabilities. OH can help with requests for work adjustments or reasonable accommodations of temporary or permanent disabilities.

2 (Slide Layer)

Ergonomics and Services for Persons with Disabilities

Because injuries can develop following repetitive activities, such as typing, lifting, bending, and twisting the back and upper extremities, LANL provides ergonomics services to help reduce or eliminate work-related factors that can cause these injuries. These services include: [Click on each button to learn more](#)

1

2

3

4

5

6

2. job specific ergonomics training

LANL also has systems in place to assist anyone onsite with temporary or permanent disabilities. OH can help with requests for work adjustments or reasonable accommodations of temporary or permanent disabilities.

3 (Slide Layer)

Ergonomics and Services for Persons with Disabilities

Because injuries can develop following repetitive activities, such as typing, lifting, bending, and twisting the back and upper extremities, LANL provides ergonomics services to help reduce or eliminate work-related factors that can cause these injuries. These services include: [Click on each button to learn more](#)

1

2

3

4

5

6

3. an office ergonomics demonstration room at SM-30, W115

LANL also has systems in place to assist anyone onsite with temporary or permanent disabilities. OH can help with requests for work adjustments or reasonable accommodations of temporary or permanent disabilities.

4 (Slide Layer)

Ergonomics and Services for Persons with Disabilities

Because injuries can develop following repetitive activities, such as typing, lifting, bending, and twisting the back and upper extremities, LANL provides ergonomics services to help reduce or eliminate work-related factors that can cause these injuries. These services include: [Click on each button to learn more](#)

1

2

3

4

5

6

4. an ergonomics website: <http://ergo.lanl.gov>

LANL also has systems in place to assist anyone onsite with temporary or permanent disabilities. OH can help with requests for work adjustments or reasonable accommodations of temporary or permanent disabilities.

5 (Slide Layer)

Ergonomics and Services for Persons with Disabilities

Because injuries can develop following repetitive activities, such as typing, lifting, bending, and twisting the back and upper extremities, LANL provides ergonomics services to help reduce or eliminate work-related factors that can cause these injuries. These services include: [Click on each button to learn more](#)

1

2

3

4

5

6

5. glovebox ergonomics demonstration equipment

LANL also has systems in place to assist anyone onsite with temporary or permanent disabilities. OH can help with requests for work adjustments or reasonable accommodations of temporary or permanent disabilities.

6 (Slide Layer)

Ergonomics and Services for Persons with Disabilities

Because injuries can develop following repetitive activities, such as typing, lifting, bending, and twisting the back and upper extremities, LANL provides ergonomics services to help reduce or eliminate work-related factors that can cause these injuries. These services include: [Click on each button to learn more](#)

1

2

3

4

5

6

6. programs to aid employees in finding and acquiring proper ergonomics equipment

LANL also has systems in place to assist anyone onsite with temporary or permanent disabilities. OH can help with requests for work adjustments or reasonable accommodations of temporary or permanent disabilities.

1.8 Reproductive Health

Protection against Reproductive Health Hazards

Reproductive health services are available if you are pregnant, planning a pregnancy (regardless of whether you are a male or female employee), or nursing a baby. The Reproductive Health Assistance Program (RHAP) helps to protect against reproductive health hazards to which you may be exposed in the workplace.

[Click on button to learn more](#)

[More Information](#)



1.9 Travel Clinic Services

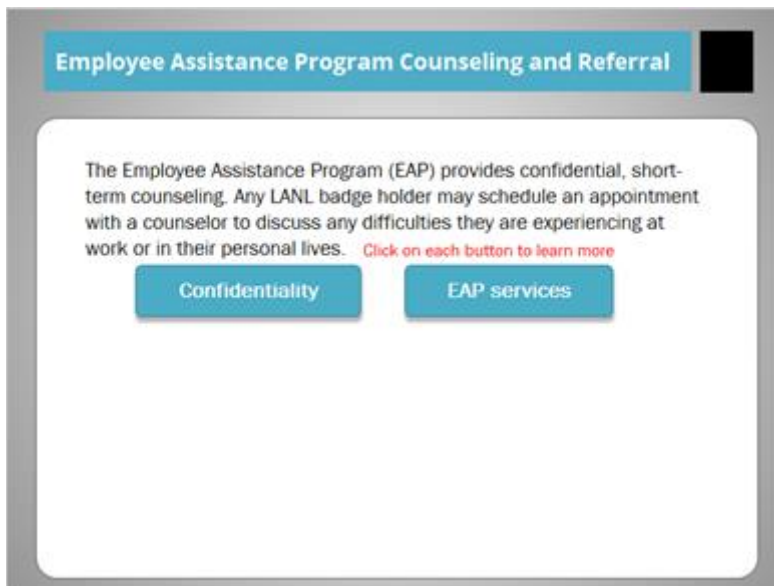
Travel Clinic Services

The OH travel clinic offers information on the health risks of travel to foreign countries. The clinic provides

- Immunizations for official Laboratory travel.
- Centers for Disease Control travel advisories.
- information on overcoming jetlag, and
- information on finding physicians and/or medical care while on travel.



1.10 EAP Counseling & Referral

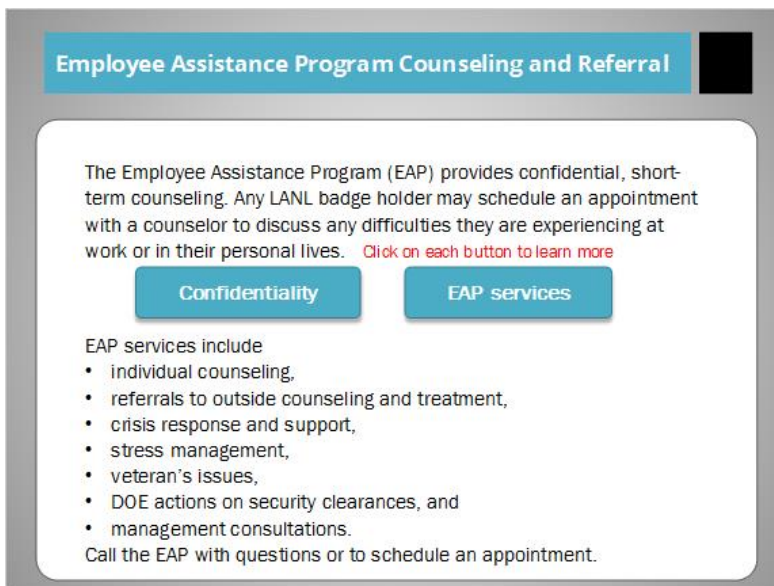


Employee Assistance Program Counseling and Referral

The Employee Assistance Program (EAP) provides confidential, short-term counseling. Any LANL badge holder may schedule an appointment with a counselor to discuss any difficulties they are experiencing at work or in their personal lives. [Click on each button to learn more](#)

[Confidentiality](#) [EAP services](#)

Services (Slide Layer)



Employee Assistance Program Counseling and Referral

The Employee Assistance Program (EAP) provides confidential, short-term counseling. Any LANL badge holder may schedule an appointment with a counselor to discuss any difficulties they are experiencing at work or in their personal lives. [Click on each button to learn more](#)

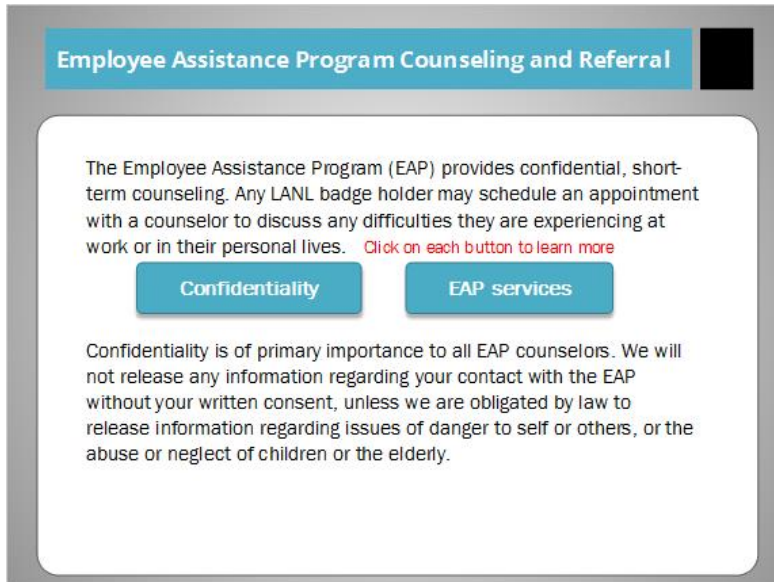
[Confidentiality](#) [EAP services](#)

EAP services include

- individual counseling,
- referrals to outside counseling and treatment,
- crisis response and support,
- stress management,
- veteran's issues,
- DOE actions on security clearances, and
- management consultations.

Call the EAP with questions or to schedule an appointment.

Confidentiality (Slide Layer)



Employee Assistance Program Counseling and Referral

The Employee Assistance Program (EAP) provides confidential, short-term counseling. Any LANL badge holder may schedule an appointment with a counselor to discuss any difficulties they are experiencing at work or in their personal lives. [Click on each button to learn more](#)

[Confidentiality](#) [EAP services](#)

Confidentiality is of primary importance to all EAP counselors. We will not release any information regarding your contact with the EAP without your written consent, unless we are obligated by law to release information regarding issues of danger to self or others, or the abuse or neglect of children or the elderly.

1.11 Preventive Medicine Services



Preventive Medicine Services

OH provides preventive medicine services, such as

- blood-pressure monitoring
- screening services (for example, testing blood sugar and blood pressure)
- training on health-related topics (for example, back care and ergonomics)
- health promotion and fitness incentive programs

OH also provides health and fitness programs through the Wellness Center, which is located at TA-3, SM-1663. Programs include

- weight and stress management,
- smoking cessation,
- cholesterol reduction,
- injury prevention, and
- exercise classes.

[Click on button to learn more](#)

[Virgin Pulse Wellness Program](#)

1.12 Your Medical Records



Medical Records (Slide Layer)



Personal Health (Slide Layer)

Your Medical Records

Click on buttons to learn more

- Your medical records
- Your personal health informatoin
- What OH will tell your supervisor
- Work-related injury
- Workers compensation

Your personal health information is protected by the Health Insurance Portability and Accountability Act (HIPAA) Medical Privacy Standards and by other applicable laws and regulations. HIPAA describes how your personal health information may (and may not) be used or shared. Worker and employer rights and responsibilities under this law are described in the Laboratory Notice of Privacy Practices, which is available at the OH facility. EAP records and Human Reliability Program (HRP) records are kept confidential and separate from the OH patient records.

Supervisor (Slide Layer)

Your Medical Records

Click on buttons to learn more

- Your medical records
- Your personal health informatoin
- What OH will tell your supervisor
- Work-related injury
- Workers compensation

OH will tell your supervisor only

- whether leave for health reasons is appropriate,
- how long your leave may last, and
- what your medical work restrictions or limitations are when you return.

Injury (Slide Layer)

Your Medical Records

Click on buttons to learn more

- Your medical records
- Your personal health informatoin
- What OH will tell your supervisor
- Work-related injury
- Workers compensation

If you are seen for a work-related injury or illness, need-to-know information related to that injury or illness is sent to the worker's compensation case workers and to the safety investigators for review.

Workers Comp (Slide Layer)

Your Medical Records

Click on buttons to learn more

- Your medical records
- Your personal health informatoin
- What OH will tell your supervisor
- Work-related injury
- Workers compensation

Worker's compensation caseworkers will ensure that worker's compensation benefits are administered properly under New Mexico law. Safety investigators will identify workplace hazards and ensure that OSHA reporting requirements are met.

2. Occupational Safety

2.1 Industrial Hygiene and Safety

A graphic titled "Industrial Hygiene and Safety" featuring a background image of safety gear: green safety glasses, a white respirator mask, and white nitrile gloves. A text box in the center contains the following information:

Industrial hygiene and safety involves the anticipation, recognition, evaluation, and control of workplace hazards. Industrial hygiene focuses on health hazards, whereas industrial safety focuses on physical hazards. These hazards can cause illness, discomfort, serious injury, or death.


Laboratory requirements define how the Laboratory implements the regulations and standards established by the aforementioned agencies. To access these requirements online, search for the Policy Center on the Laboratory's homepage.

Click button to see the regulating agencies

Regulating Agencies

Notes:

2.2 OSH Organization




The Occupational Safety and Health Organization

The Laboratory's Occupational Safety and Health (OSH) Division supports a safe and healthy workplace. Contact the organization for help with institutional health and safety issues and regulatory compliance issues. OSH maintains a Safety Help Desk that can be reached by calling 665-SAFE or by emailing safety@lanl.gov. You may also have deployed health and safety professionals assigned to your organization. Make it a point to meet these individuals and make use of their valuable expertise early in the project planning process and as needed.

[Click button to learn more](#)

Industrial hygienists and safety engineers at LANL provide support in the following areas:

2.3 Industrial Hygiene Programs



Industrial Hygiene Programs

OSH manages some industrial hygiene programs for the Laboratory to minimize health hazards in the workplace and to help ensure the well-being of workers.

[Click button to learn more](#)

Industrial Hygiene programs

If any of these programs apply to your work area or work activities, you must be familiar with their Laboratory-specific requirements. To find more information on these various hazards, go to the Safety tab on the Laboratory's homepage and select the Industrial Hygiene and Safety link. On that page, you will find links to other web pages containing information on safety requirements, training, resources, and contacts.

2.4 Industrial Safety Programs

Industrial Safety Programs

Industrial safety programs are managed by OSH for LANL in the following areas to help ensure the safety of workers and operations and to minimize property loss.

[Click button to learn more](#)

Industrial Safety Programs

To find more information on these various hazards, go to the Safety tab on the Laboratory's homepage and select the Industrial Hygiene and Safety link. On that page, you will find a link to All Systems, Programs & Contacts, a web page that provides information on safety systems and programs and program contact names.

2.5 Ombuds Office

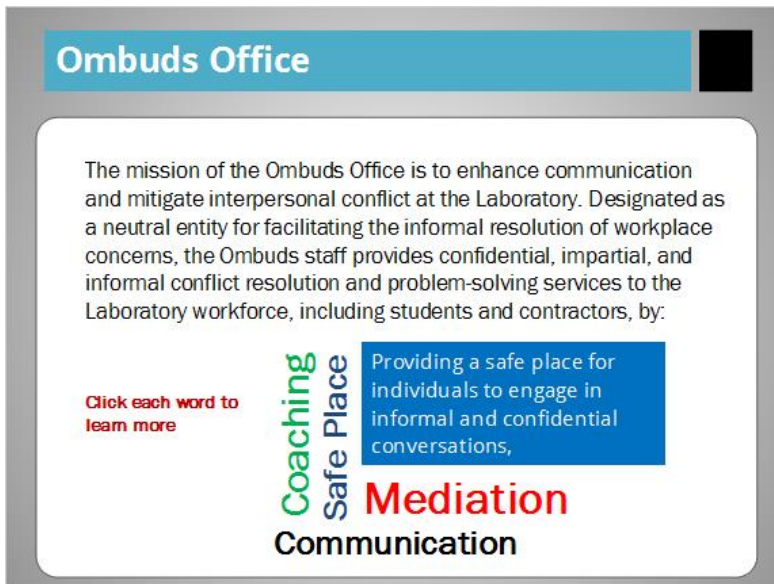
Ombuds Office

The mission of the Ombuds Office is to enhance communication and mitigate interpersonal conflict at the Laboratory. Designated as a neutral entity for facilitating the informal resolution of workplace concerns, the Ombuds staff provides confidential, impartial, and informal conflict resolution and problem-solving services to the Laboratory workforce, including students and contractors, by:

[Click each word to learn more](#)

Coaching
Safe Place
Mediation
Communication

Safe (Slide Layer)



Ombuds Office

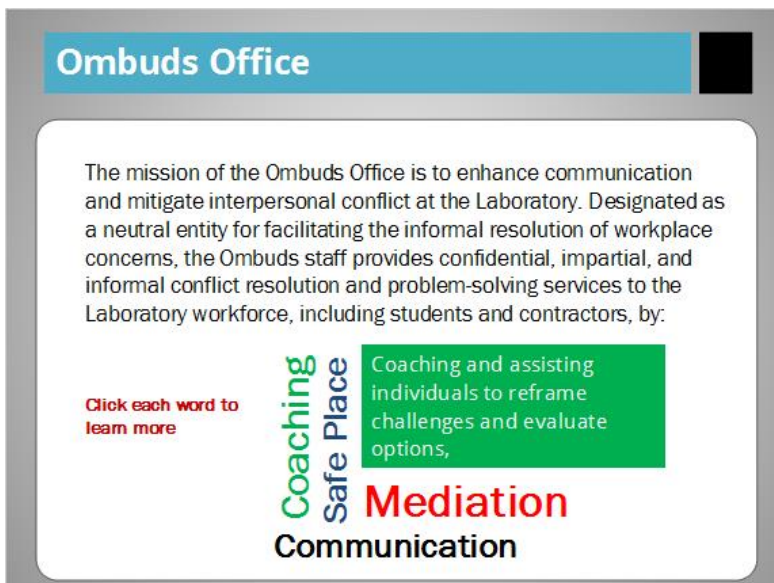
The mission of the Ombuds Office is to enhance communication and mitigate interpersonal conflict at the Laboratory. Designated as a neutral entity for facilitating the informal resolution of workplace concerns, the Ombuds staff provides confidential, impartial, and informal conflict resolution and problem-solving services to the Laboratory workforce, including students and contractors, by:

Click each word to learn more

Coaching
Safe Place
Mediation
Communication

Providing a safe place for individuals to engage in informal and confidential conversations,

Coaching (Slide Layer)



Ombuds Office

The mission of the Ombuds Office is to enhance communication and mitigate interpersonal conflict at the Laboratory. Designated as a neutral entity for facilitating the informal resolution of workplace concerns, the Ombuds staff provides confidential, impartial, and informal conflict resolution and problem-solving services to the Laboratory workforce, including students and contractors, by:

Click each word to learn more

Coaching
Safe Place
Mediation
Communication

Coaching and assisting individuals to reframe challenges and evaluate options,

Mediation (Slide Layer)

Ombuds Office

The mission of the Ombuds Office is to enhance communication and mitigate interpersonal conflict at the Laboratory. Designated as a neutral entity for facilitating the informal resolution of workplace concerns, the Ombuds staff provides confidential, impartial, and informal conflict resolution and problem-solving services to the Laboratory workforce, including students and contractors, by:

Click each word to learn more

Coaching
Safe Place

Mediation
Communication

Offering informal mediation and facilitation between parties in conflict and referrals to appropriate resources and policy.

Communication (Slide Layer)

Ombuds Office

The mission of the Ombuds Office is to enhance communication and mitigate interpersonal conflict at the Laboratory. Designated as a neutral entity for facilitating the informal resolution of workplace concerns, the Ombuds staff provides confidential, impartial, and informal conflict resolution and problem-solving services to the Laboratory workforce, including students and contractors, by:

Click each word to learn more

Coaching
Safe Place

Mediation
Communication

Delivering communication skills training through educational presentations and workshops.

2.6 What Lies Ahead

What Lies Ahead

In the next module, we'll look at some security issues at the Laboratory and your role in protecting the Laboratory's mission, spaces, and information—after a quick knowledge check.

2.7 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

How can you get help if you have a problem with substance abuse?

- ☒ ask for help through OH
- ☐ try to overcome the problem yourself
- ☐ call the protective force
- ☐ none of the above

Correct	Choice
	ask for help through OH

	try to overcome the problem yourself
X	call the protective force
	none of the above

Feedback when correct:

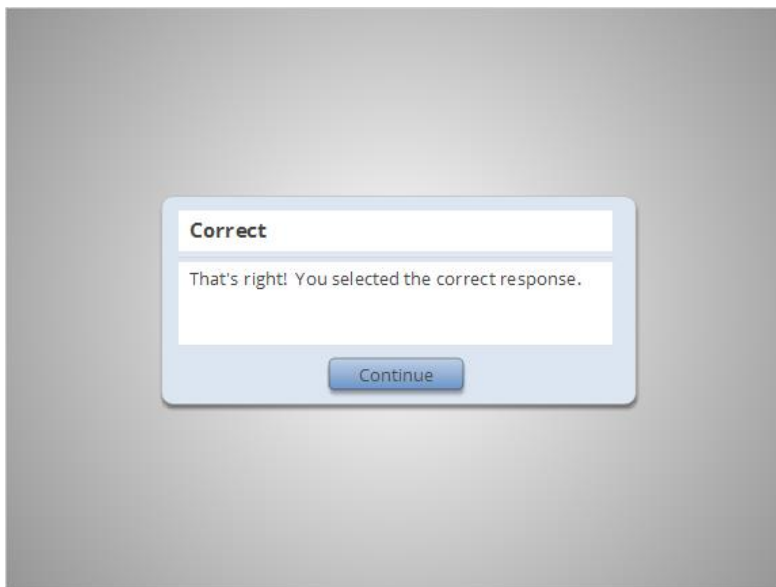
That's right! You selected the correct response.

Feedback when incorrect:

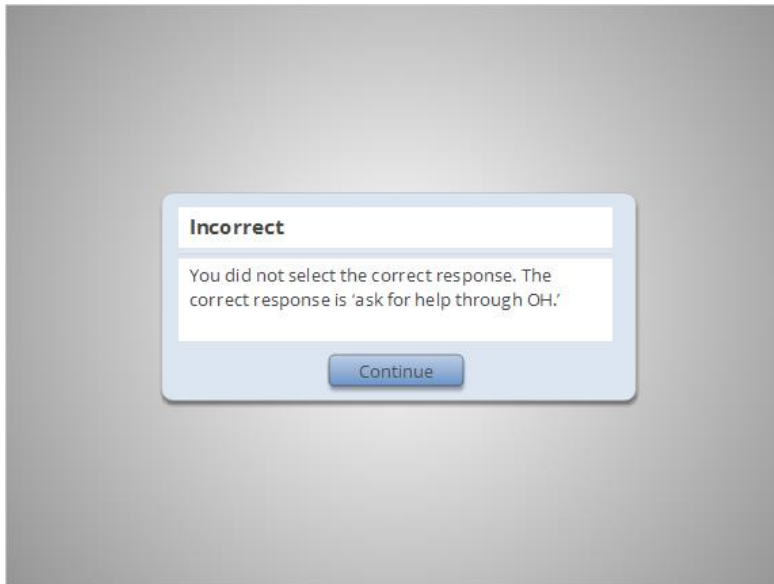
You did not select the correct response. The correct response is 'ask for help through OH.'

Notes:

Correct (Slide Layer)

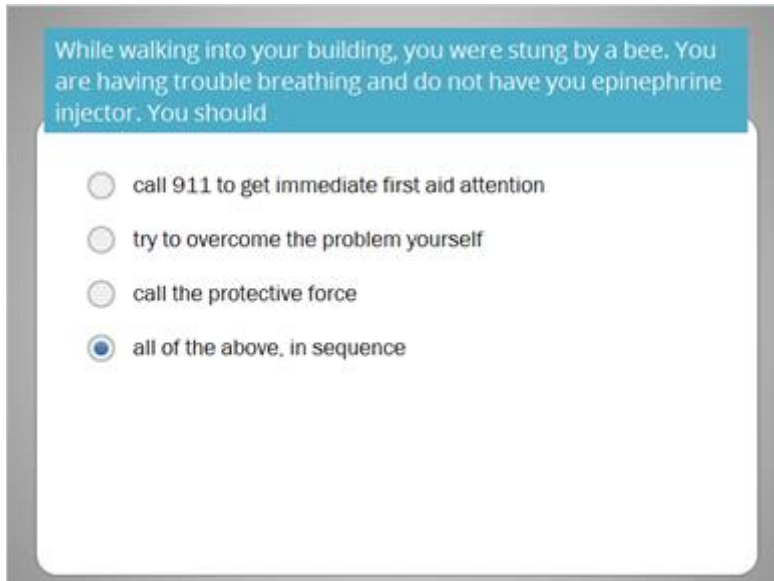


Incorrect (Slide Layer)



2.8 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)



Correct	Choice
	call 911 to get immediate first aid attention

	try to overcome the problem yourself
	call the protective force
X	all of the above, in sequence

Feedback when correct:

That's right! You selected the correct response.

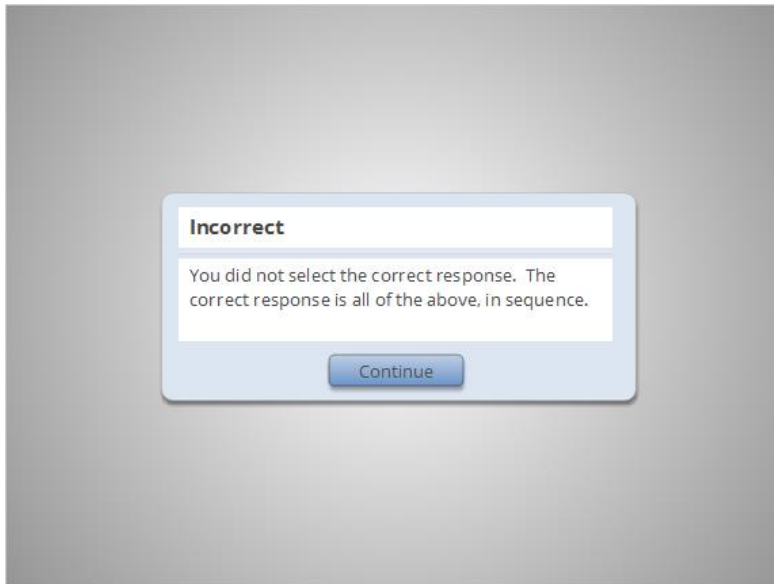
Feedback when incorrect:

You did not select the correct response. The correct response is all of the above, in sequence.

Correct (Slide Layer)

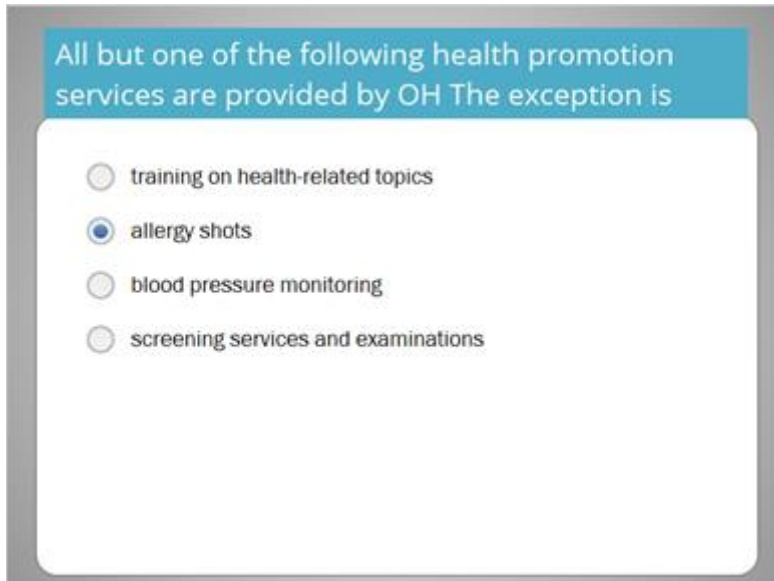


Incorrect (Slide Layer)



2.9 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)



Correct	Choice
	training on health-related topics

X	allergy shots
	blood pressure monitoring
	screening services and examinations

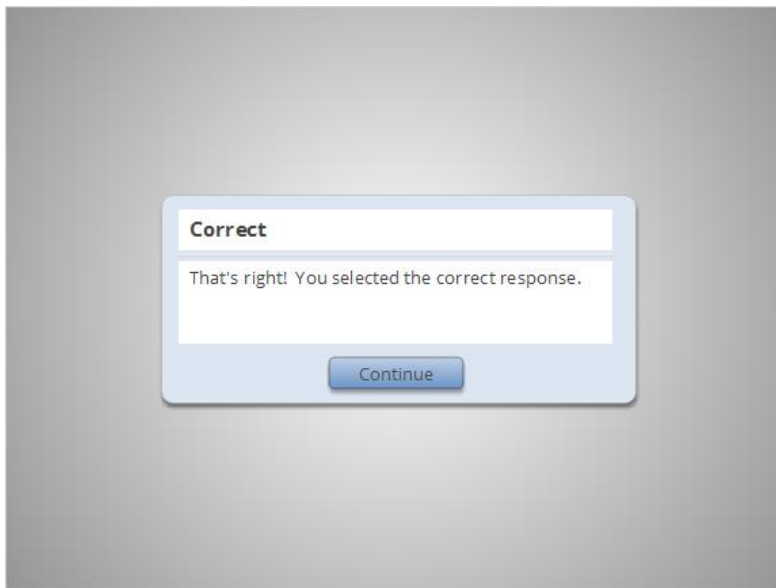
Feedback when correct:

That's right! You selected the correct response.

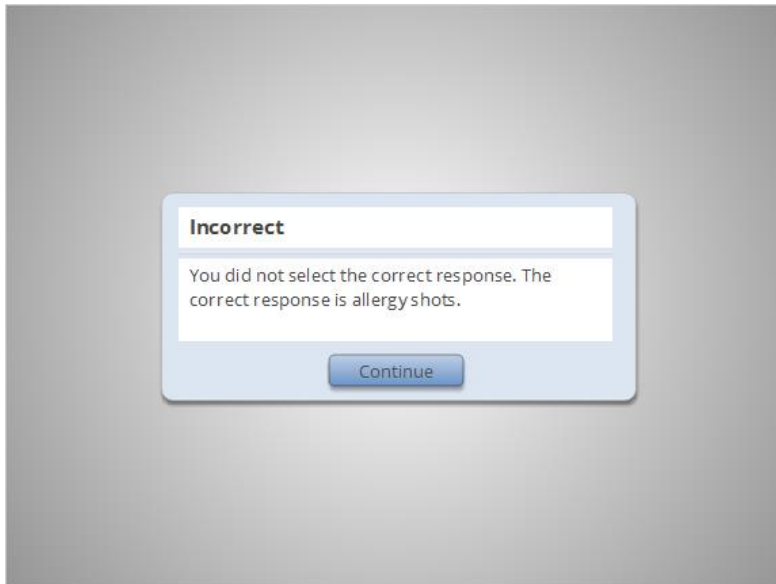
Feedback when incorrect:

You did not select the correct response. The correct response is allergy shots.

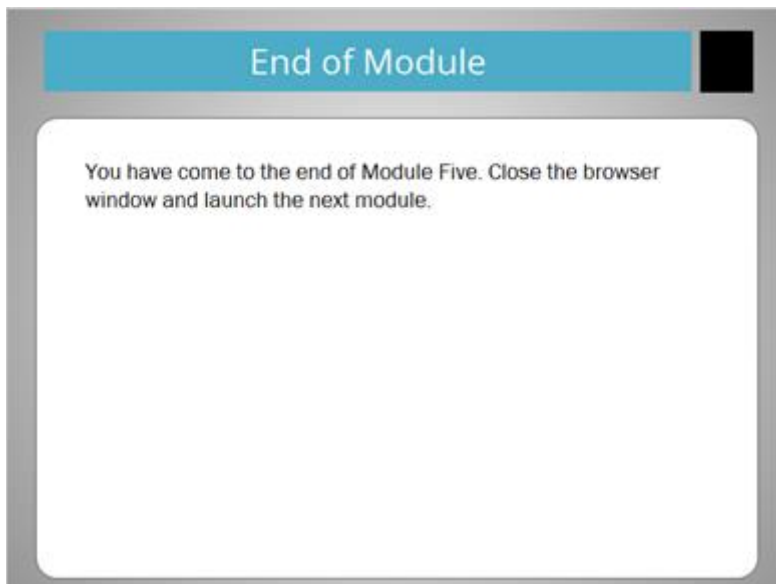
Correct (Slide Layer)



Incorrect (Slide Layer)



2.10 End of Module




Notes:

3. Lightboxes

3.1 Medical Absences

Medical Absences


Any employee who is absent from work because of medical reasons for more than 5 consecutive calendar days (or an equivalent time period for those individuals on an alternative work schedule) must report to the OH clinic for evaluation before returning to work. An employee who was under a doctor's care must bring the doctor's release form upon returning. Any employee/worker who is absent because of surgery must report to OH to obtain a medical clearance before returning to work. The employee must bring a written medical clearance for work from his or her surgeon or primary care provider. OH staff will determine if the employee is able to return to work and if any additional medical work restrictions or limitations are needed.



3.2 New Hires

New Hires

A full medical evaluation at the OH clinic is scheduled for all new employees. The new-hire evaluation provides baseline occupational medical information as you begin your employment. New-hire medical evaluations are not provided for temporary workers (expected to be on site fewer than 90 days), unless they will be performing work that requires medical surveillance or medical certification, or for subcontractors, unless they are enrolled in the Human Reliability Program (HRP) or some specific medical surveillance programs.



3.3 Fitness-for-Duty Evaluations

Fitness-for-Duty Evaluations

Supervisors may refer a worker to OH for a fitness-for-duty (FFD) evaluation if they are concerned about

- 1 employee-identified medical problems affecting performance or behavior,
- 2 safety or reliability in the workplace,
- 3 substance misuse problems, or
- 4 excessive sick leave.

If your supervisor refers you for an FFD medical evaluation, you must comply. P102-3, *Medical Evaluation for Work*, describes the process in more detail. See the "Your Medical Records" section later in this training for information on how your medical records privacy is protected.

3.4 Termination Evaluations

Termination Evaluations

Termination Evaluations

Before leaving the Laboratory, an employee is offered an exit medical evaluation. Employees who decline the offered medical exam must do so in writing.

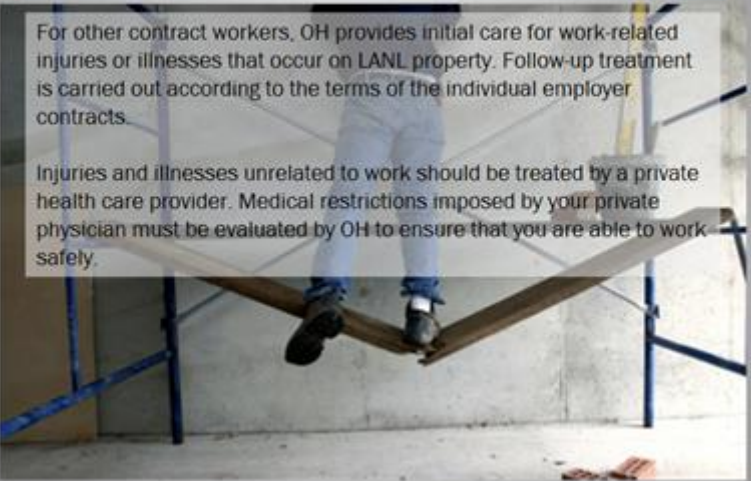


3.5 Contract Workers

Contract Workers

For other contract workers, OH provides initial care for work-related injuries or illnesses that occur on LANL property. Follow-up treatment is carried out according to the terms of the individual employer contracts.

Injuries and illnesses unrelated to work should be treated by a private health care provider. Medical restrictions imposed by your private physician must be evaluated by OH to ensure that you are able to work safely.



3.6 When to call 911?

When to call 911?


If the injury/illness is a medical emergency, call 911 immediately to get an ambulance; then notify your manager. If you are not sure if you need an ambulance or where to go for treatment, call OH for direction.



3.7 Before Returning to Work

Before Returning to Work

You must report to OH before returning to work, even if you have been treated for your occupational injury/illness somewhere other than OH. By law, all work-related injuries or illnesses must be reported within 15 calendar days to be considered for workers' compensation. If you have questions about the process, contact OH.




3.8 Protection against Reproductive Health Hazards

Protection against Reproductive Health Hazards

Through the RHAP, representatives from OH, Radiation Protection, and Industrial Hygiene & Safety

- conduct workplace evaluations on request,
- inform workers of the reproductive hazards in their workplace, and
- inform workers of the options available to minimize their exposure.

If you are pregnant, you are encouraged to declare your pregnancy in writing to your supervisor and/or OH at MS D421. To remove yourself from this program during pregnancy, the request must also be made in writing.




3.9 Virgin Pulse Wellness Program

Virgin Pulse Wellness Program

Virgin Pulse is an online incentivized wellness program designed to help Laboratory employees and their non-employee spouses achieve and maintain good health and lifestyle habits. Rewards are offered for completing the Health Assessment Questionnaire and/or participating in healthy activities, including competitions, challenges, promotions, contests, health and safety classes, and lifestyle management programs.

For more information on the Virgin Pulse program, see the Laboratory website.



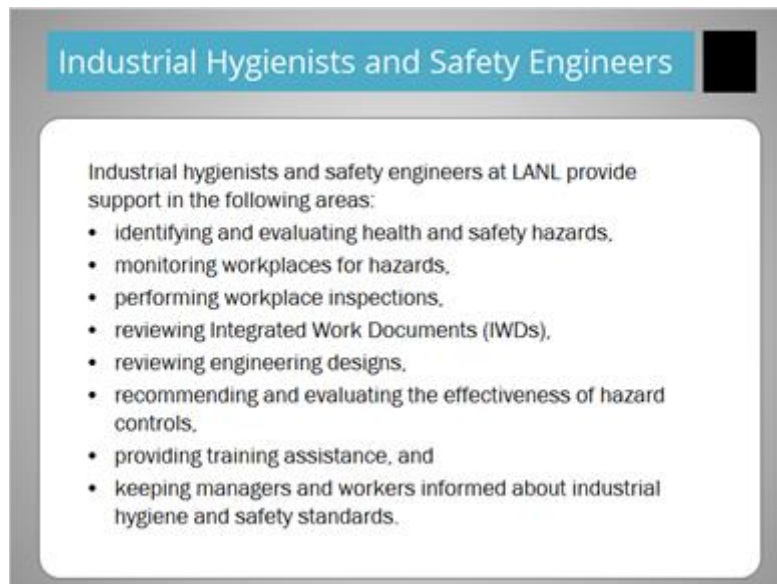
3.10 Regulating Agencies

Regulating Agencies

Several agencies establish the regulations, standards, and guidelines for industrial hygiene and safety programs in the workplace.

- OSHA-Occupational Safety and Health Administration (issues mandatory regulations that have the power of law). Website: <http://www.osha.gov>
- ANSI-American National Standards Institute. Website: <http://www.ansi.org>
- NIOSH-National Institute for Occupational Safety and Health. Website: <http://www.cdc.gov/niosh>
- ACGIH-American Conference of Governmental Industrial Hygienists. Website: <http://www.acgih.org>
- DOE-Department of Energy. Website: <http://energy.gov>

3.11 Industrial Hygienists and Safety Engineers

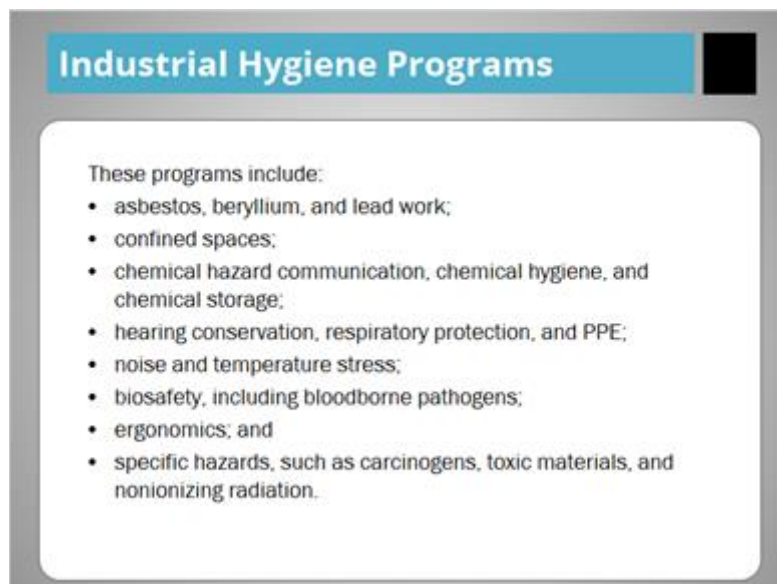


Industrial Hygienists and Safety Engineers

Industrial hygienists and safety engineers at LANL provide support in the following areas:

- identifying and evaluating health and safety hazards,
- monitoring workplaces for hazards,
- performing workplace inspections,
- reviewing Integrated Work Documents (IWDs),
- reviewing engineering designs,
- recommending and evaluating the effectiveness of hazard controls,
- providing training assistance, and
- keeping managers and workers informed about industrial hygiene and safety standards.

3.12 Industrial Hygiene Programs



Industrial Hygiene Programs

These programs include:

- asbestos, beryllium, and lead work;
- confined spaces;
- chemical hazard communication, chemical hygiene, and chemical storage;
- hearing conservation, respiratory protection, and PPE;
- noise and temperature stress;
- biosafety, including bloodborne pathogens;
- ergonomics; and
- specific hazards, such as carcinogens, toxic materials, and nonionizing radiation.

3.13 Industrial Safety Programs

Industrial Safety Programs

- construction safety
- cranes, hoists, lifting devices and rigging safety
- electrical safety
- explosives safety
- fall protection
- forklift safety
- glovebox safety
- laser safety
- lockout/tagout
- machine safeguarding
- non-security firearms safety
- pressure safety and cryogenics
- vehicle and pedestrian safety

If any of these programs apply to your work area or activities, you must be familiar with their LANL-specific requirements. Depending on your specific work activities and area, you may be required to attend one or more safety courses.

GET-security-module6

1. Working Securely

1.1 Working Securely



Notes:

1.2 Security Organization

Security Organization



The Associate Directorate for Mission Assurance, Security, and Emergency Response (**ADMASER**) is responsible for preventing and neutralizing threats to the Laboratory that might prevent LANL from achieving its national security and science missions.

The ADMASER's mission is to protect LANL's special nuclear material, property, information, and personnel by providing personnel, expertise, support, and guidance in all areas of security and safeguards—from classification to personnel security, and especially nuclear material control and accountability.

To learn more about the services and groups within ADMASER, visit the Directorate homepage. For answers to security-related questions, use the Security Help Line or security@lanl.gov <<mailto:security@lanl.gov>>.

Notes:

1.3 Lab Protective Force

Laboratory Protective Force



Click each picture to learn about LANL's Pro Force

top pic (Slide Layer)

Laboratory Protective Force



One of the most visible elements of the ADMASER Security Division is a Protective Force (PF) that provides security services to the Laboratory. Hired as a subcontractor organization, the PF officers provide physical security for facilities, fixed and roving security patrols, access control and vehicle inspections, and security emergency response. PF officers can be seen wearing military-style uniforms and tactical vests, operating military vehicles, and carrying a wide variety of equipment, including radios and weapons. All PF officers are authorized to carry cell phones, pagers, and tactical radios.

bottom pic (Slide Layer)

Laboratory Protective Force



All LANL workers are required to cooperate with PF officers on security matters and participate fully in the Laboratory's security programs. When a PF officer directs a Laboratory worker to perform an action (especially in emergency situations), the LANL employee must follow directions.

Arguing, using inappropriate language and offensive hand gestures, resisting, or interfering with officers will not be tolerated.

Officers are trained to be courteous, but also to take control of any situation. Officers are not obligated to respond to questions, offer explanations, or justify their instructions.

For more information, go to LANL's homepage and search under Security.

warning (Slide Layer)

Laboratory Protective Force



Click each picture to learn about LANL's Pro Force

Click both pictures before continuing.

1.4 Your Security Badge

Your Security Badge

All workers at the Laboratory are issued security badges before reporting to work. This badge serves as your official identification for government work and allows (or restricts) your access to certain areas of the Laboratory.

Slide the button below right to understand your responsibilities with your badge:



Labels for the security badge diagram:

- Photo (neutral expression)
- Name: DOE JOHN, W
- DOE Site Name
- Smart Chip
- Expiration Date: OCT2010
- Organizational Affiliation: DOE
- Agency Seal
- Color Bar: Green for contractors, blue for foreign nationals, and white for federal employees
- Clearance: Gov L (contractors and other federal organizations with NCI have a visible "visible" label)
- Emergency Response Officer (Designated as determined by DOE and local sites)



Notes:

Untitled Layer 1 (Slide Layer)

Your Security Badge



Wear your badge at all times while on Laboratory-owned or -leased property. Do not wear your badge when off Laboratory property, and do not leave your badge where it might be stolen.

Untitled Layer 2 (Slide Layer)

Your Security Badge



Wear your badge above the waist, on the front side of your body, with the photograph visible.

Untitled Layer 3 (Slide Layer)

Your Security Badge




Do not use your badge for unofficial identification, such as for cashing checks. (You may use your badge off site as identification for official Laboratory purposes, but never allow anyone to make a photocopy or take a photo of your badge.)




Untitled Layer 4 (Slide Layer)

Your Security Badge




Keep your badge safe from damage.



Untitled Layer 5 (Slide Layer)

Your Security Badge



The diagram shows a security badge for the United States Government. It includes a photo of a man, the name DOE JOHN, W, and the site name DOE Site Name. The badge also features a smart chip, an expiration date of OCT2010, and a color bar with a green 'G' and a white 'Q'. Labels point to various parts of the badge, including the photo, name, site name, smart chip, expiration date, organizational affiliation, agency seal, color bar, and clearance level.

Remember, your badge is the property of the US government. You must return your badge to the Badge Office when you change Laboratory employers; your clearance level changes; your badge expires; or if you quit, retire, or no longer need it.

warning (Slide Layer)

Your Security Badge

All workers at the Laboratory are issued security badges before reporting to work. This badge serves as your official identification for government work and allows (or restricts) your access to certain areas of the Laboratory.

Slide the button below right to understand your responsibilities with your badge:



The diagram shows a security badge for the United States Government. It includes a photo of a man, the name DOE JOHN, W, and the site name DOE Site Name. The badge also features a smart chip, an expiration date of OCT2010, and a color bar with a green 'G' and a white 'Q'. Labels point to various parts of the badge, including the photo, name, site name, smart chip, expiration date, organizational affiliation, agency seal, color bar, and clearance level.

Click both pictures before continuing.

1.5 Lost or Stolen Security Badges

Lost or Stolen Security Badges



If your badge is lost during work hours, report it in person to the Badge Office. If your badge has been stolen, report it immediately to the Badge Office, your deployed security officer, or the Security Incident Team. Badges reported as lost or stolen will cease working in any Laboratory badge readers, even if found. This is a permanent status change so that the badge reported lost or stolen can never be re-activated.

If you forget your badge, you may receive a temporary badge after presenting proper identification at the Badge Office. A temporary badge will be issued only twice in a 12-month period. Your manager's approval is required if an additional temporary badge is needed.

1.6 Types of Security Badges

Types of Security Badges

A limited number of security badge types are in use at the Laboratory. These include:

1. DOE / United States federal security badges
2. LANL site-specific badges
3. Temporary badges
4. Uncleared foreign national badges
5. Visitor badges

1.7 Federal Security Badges

Federal Security Badges

A United States federal security badge, called the Homeland Security Presidential Directive-12 -compliant or HSPD-12 badge, is issued to LANL employees with an L or Q clearance. The badge incorporates an integrated circuit chip, which stores limited personal information about the badge holder, such as a personal identification number (PIN), electronic fingerprints, and a digital image.

The federal security badge is issued with an electromagnetically opaque sleeve that protects the badge. It also protects the badge's integrated circuit chip from being pinged or accessed without proper authorization. Unless you are showing the badge to a PF officer or swiping it through a badge reader, chipped badges must be kept in the supplied protective sleeve at all times.

You should take the following measures to protect your HSPD-12 badge:

- 1 Do not mark on, punch holes in, or bend your badge.
- 2 Do not scratch the magnetic strip on the badge.
- 3 Do not use your badge as a window scraper or any other kind of scraper.
- 4 Avoid subjecting the badge to excessive heat (e.g., clothes dryer) or direct sunlight (e.g., car dashboards).
- 5 Keep the badge away from stereo equipment, speakers, and other sources of magnetic energy.

1.8 Using Your Badge to Get Around

Using Your Badge to Get Around

Much of what you may have already seen at the Laboratory has likely been in the General Access Areas (GAAs). There are no identification or badge requirements to enter a GAA, and privately owned vehicles are permitted to enter GAAs, unless otherwise prohibited by site-specific access requirements.

Property Protection Areas

Established to protect workers, buildings, facilities, and property, Property Protection Areas (PPAs) are areas where access is controlled through the use of physical barriers, access control systems, and/or protective personnel. For unescorted access to a PPA, you must possess a DOE security badge or LANL site-specific badge. Visitors who do not possess either badge may be issued a LANL Visitor badge for access. Privately owned vehicles may be authorized to enter PPAs for official purposes, unless restricted by site-specific access requirements.

Although GAAs are accessible to all workers and the general public and PPAs require a DOE security badge or LANL site-specific badge, access to other areas of LANL, called security areas, is limited by your DOE clearance level.

1.9 Entering Vehicle Access Portals (VAPs)

Entering Vehicle Access Portals (VAPs)

To enter some Laboratory roadways, you will be required to go through a vehicle access portal (VAP). Slide the button below to learn about vehicle access requirements:



A map of Laboratory roadways showing various streets including Diamond Dr, West Jensen Rd, and East Jensen Rd (Truck Road). A blue car is shown entering a VAP. A north arrow is in the bottom right corner.

Untitled Layer 1 (Slide Layer)

Entering Vehicle Access Portals (VAPs)

**APPROACH
SLOWLY**

Approach the VAP safely, paying attention to your speed, other traffic, bicycles, personnel on foot, etc.

Untitled Layer 2 (Slide Layer)

Entering Vehicle Access Portals (VAPs)



Follow the traffic lanes and instructional signs.



Untitled Layer 3 (Slide Layer)

Entering Vehicle Access Portals (VAPs)

If the traffic control drop arms are up and the green OPEN sign is illuminated, that lane is open.



Untitled Layer 4 (Slide Layer)

Entering Vehicle Access Portals (VAPs)



All vehicles must STOP at the portal, and all drivers must present a badge to the officer. DO NOT drive through the VAP without stopping and being authorized to proceed. (If you do not stop, the PF will pursue your vehicle, stop you, inspect your vehicle, and submit an incident report, and **you may be issued a security infraction.**)



Untitled Layer 5 (Slide Layer)

Entering Vehicle Access Portals (VAPs)




Bicyclists: The VAPs on Pajarito Road require bicyclists to stop under an Elevated Security Condition (SECON 3). All LANL VAPs require bicyclists to stop under a High Security Condition (SECON 2). If stopping is not required, they may proceed slowly and safely through the VAP.



Untitled Layer 6 (Slide Layer)

Entering Vehicle Access Portals (VAPs)


After the PF officer has given you verbal or hand signal direction to proceed, you may proceed through the VAP.

A horizontal progress bar with a blue circular marker at the beginning, indicating the start of the slide.

Untitled Layer 7 (Slide Layer)

Entering Vehicle Access Portals (VAPs)

Merge into the main roadway with caution, considering other vehicles in the area that are also exiting and merging.

A horizontal progress bar with a blue circular marker at the beginning, indicating the start of the slide.

Untitled Layer 8 (Slide Layer)

Entering Vehicle Access Portals (VAPs)



At the VAPs on Pajarito Road, all individuals must show a valid security badge (Federal Security Badge or LANL site-specific badge issued by the Badge Office). Workers with generic "Visitor" badges (badges not issued directly to a worker by the Badge Office) can be escorted through the Pajarito corridor by a worker who is approved for unescorted access to the corridor with an approved security plan for the work being conducted.



Untitled Layer 9 (Slide Layer)

Entering Vehicle Access Portals (VAPs)

Each PF officer has the duty and obligation to verify the identity of persons entering. You must comply with requests to remove anything that may obstruct your facial features, such as helmets, hats, scarves, or sunglasses. Vehicle access requirements may change according to the security condition. Please go to the Security website for more information on VAP requirements.



warning (Slide Layer)

Entering Vehicle Access Portals (VAPs)

To enter some Laboratory roadways, you will be required to go through a vehicle access portal (VAP). Slide the button below to learn about vehicle access requirements:



Click both pictures before continuing.

1.10 Personal and Vehicle Inspections

Personal and Vehicle Inspections

While on Laboratory property, you are subject to random personal and vehicle inspections by PF personnel. You may also receive unannounced inspections of your work area by bomb-detecting dogs.

Prohibited Articles on Laboratory-Owned or Leased Property

Firearms, dangerous weapons, explosives, incendiary devices, and other instruments or materials likely to cause personal injury or property damage are not allowed on Laboratory property or inside Laboratory-operated facilities, unless they are government property or are specifically authorized. Also not allowed are alcohol, illegal drugs, and any other articles prohibited by law.

Photography is not permitted on Laboratory-owned or leased property without a specific permit.

The use of Bluetooth wireless technology is also prohibited on LANL property. LANL has implemented wireless networks that are available in some locations. Contact your OCSR to find out if wireless service is available in your work location.

1.11 Security Clearances

Security Clearances

Should your job require access security areas at the Laboratory, you may need to obtain a DOE security clearance. DOE uses three levels of security clearances: Uncleared (U), Limited (L), and Q. The granting of a clearance is an access authorization, which allows you to enter certain security areas, but does not immediately give you permission to access classified information. Should your job require access to classified information, you will need security clearance access authorizations based on your "need to know." We'll talk more about this concept later in this module.

1.12 Security Areas

Security Areas

There are four general types of security areas at the Laboratory, each with more stringent access requirements. These areas include:

Click on the buttons to learn more:

Limited Areas

Exclusion Areas

Protected Areas

Material Access
Areas (MAAs)

limited (Slide Layer)

Security Areas

There are four general types of security areas at the Laboratory, each with more stringent access requirements. These areas include:

Click on the buttons to learn more:

Limited Areas

Exclusion Areas

Protected Areas

Material Access Areas (MAAs)

Limited Areas (LAs) are security areas established for the protection of classified matter and/or Category III special nuclear material (SNM). In addition to requiring a DOE Security badge or LANL site-specific badge, an active L- or Q-clearance is required for unescorted access, unless more stringent controls are implemented by the security area's facility management. Privately owned vehicles are not permitted in LAs, unless authorized and documented in a Site Safeguards and Security Plan. Temporary LAs may also be occasionally established in areas normally designated as a GAA or PPA with an approved security plan.

exclusion (Slide Layer)

Security Areas

There are four general types of security areas at the Laboratory, each with more stringent access requirements. These areas include:

Click on the buttons to learn more:

Limited Areas

Exclusion Areas

Protected Areas

Material Access Areas (MAAs)

Exclusion Areas (EAs) are security areas established within Limited Areas where a worker can be expected to be exposed to classified information simply by being present. Workers in an EA may store and process classified matter up to Secret Restricted Data and SNM up to Category III. Access is based on need-to-know and requires an active DOE security or LANL site-specific badge and a Q-clearance.

protected (Slide Layer)

Security Areas

There are four general types of security areas at the Laboratory, each with more stringent access requirements. These areas include:

Click on the buttons to learn more:

Limited Areas

Exclusion Areas

Protected Areas

Material Access Areas (MAAs)

Protected Areas (PAs) are security areas established to protect Category II SNM and classified matter. PAs may also be established to provide a concentric security zone surrounding a Material Access Area. Unescorted access to a PA requires an L-clearance or higher. Privately owned vehicles are prohibited in a PA unless specifically authorized.

MAAs (Slide Layer)

Security Areas

There are four general types of security areas at the Laboratory, each with more stringent access requirements. These areas include:

Click on the buttons to learn more:

Limited Areas

Exclusion Areas

Protected Areas

Material Access Areas (MAAs)

Material Access Areas (MAAs) are security areas established within Protected Areas to protect Category I Special Nuclear Material. Workers must possess an active DOE security or LANL site-specific badge, a Q clearance, and be enrolled in the Human Reliability Program (HRP) for unescorted access to an MAA. All workers, vehicles, packages, and hand-carried articles are inspected upon entering or exiting an MAA.

1.13 Entering and Leaving Security Areas

Entering and Leaving Security Areas

When entering a staffed security post, hand your badge to the Protective Force (PF) officer. You will need to use a badge reader and hand geometry reader (commonly known as a palm reader) or PIN to enter security areas. Property Protection Areas use badge readers only.

In some security areas, you may need to pass through a metal detector. Your purse, coat, briefcase, lunchbox, and other packages may be checked by an x-ray machine or a PF officer.

If a badge reader at an entrance to a security area does not read your badge, it may mean that your security training has expired or another badge/clearance issue needs to be resolved before access is reinstated. Remember, you must keep your security training up to date.

Remember that "piggybacking" (allowing another individual with the required clearance, appropriate badge, and need-to-know to access a security area without using automated access controls, such as badge or palm readers) and "tailgating" (allowing another individual to enter a facility behind you after you swipe your badge or following someone into a security area without swiping your badge) are not allowed. Every worker must use his or her own badge to gain access to a security area.

1.14 Controlled Articles in Security Areas

Controlled Articles in Security Areas

Personal cell phones are allowed only in General Access Areas and Property Protection Areas (PPAs). Devices that can store, read, write, record, or transmit data are not allowed in security areas, unless they are government property or are specifically authorized.

These articles include:

- recording equipment (including audio, video, optical, and data-recording devices);
- cameras (film, digital, video, or still);
- non-government-owned portable electronic devices (including computers, personal digital assistants, iPods, iPads, USB drives, flash memory, medical devices, and ankle monitors);
- cell phones, two-way pagers, and radio-transmitting equipment; and
- wireless devices.

1.15 Technical Surveillance Countermeasures

Technical Surveillance Countermeasures

Technical surveillance countermeasures (TSCM) is an electronic countermeasures program used to detect and deter espionage, protect against inadvertent disclosure of classified or sensitive information, and protect your privacy at work. If you take LANL electronic equipment when traveling to foreign countries, you should consult with the TSCM Team before and after travel. All LANL electronics taken to sensitive foreign countries must be examined by the TSCM Team upon your return from travel. If you suspect that you are the target of a technical surveillance device, contact (preferably in person) the TSCM Team from a location away from the suspected targeted area. When requesting assistance, do not indicate the nature of the situation; simply ask to speak to a member of the TSCM Team.

1.16 Electronic Devices Used for Surveillance

Electronic Devices Used for Surveillance

The following electronic devices pose a security risk if intentionally or unintentionally used as surveillance equipment:

- cell phones,
- radio frequency transmitters,
- pagers,
- wireless devices,
- personal digital assistants (PDAs),
- still and video cameras, and
- other electronic devices.

1.17 Electronic Devices Used for Surveillance

Electronic Devices Used for Surveillance

Why Cellular Phones?

Unlike a traditional telephone, it is not always apparent when a cell phone is off. Because of this, cell phones can pose a threat to security. This threat is posed in four significant ways:

- 1 Cell phones can be carried to different locations without much awareness.
- 2 A cell phone maintains contact with its cellular service provider, except when the battery is removed.
- 3 A cell phone can be remotely activated without the user's knowledge.
- 4 Cell phone technology now integrates PDAs, cameras, Internet access, audio/video recording, and other capabilities controlled in secure areas.

If your job requires using a cell phone, the Laboratory will issue you one.

Blackberry and iPhone smartphones issued and configured by LANL and other government agencies with reciprocity agreements are allowed for conditional use in limited areas. If you are issued a government Blackberry or iPhone, you will receive additional training on the rules of use.

1.18 Temporary Storage of Electronic Items

Temporary Storage of Electronic Items

Before entering a secure area, you must turn off your LANL-issued cell phone (or two-way pager) and remove its battery. Privately owned cell phones, two-way pagers, and other transmitters are prohibited in security areas without prior Information Security approval.

Many areas have small lockers set up outside security area access points for securely storing personal electronic devices such as cell phones. Please ask at your facility about locker availability and the requirements for using them.

1.19 Escorting Uncleared Visitors

Escorting Uncleared Visitors

If you have a security clearance, you may need to escort an uncleared US citizen visitor into a security area. To do this, you must

1. take appropriate training before escorting;
2. make sure that uncleared Escort Required badges are issued and returned;
3. brief visitors of their responsibilities while in a security area, including those responsibilities regarding prohibited and controlled articles;
4. log visitors in and out of security areas;
5. ensure that uncleared visitors do not see information and/or overhear discussions that are classified; and
6. keep uncleared visitors in sight at all times until you are leaving security areas or turning the visitors over to another authorized escort.

Escorting uncleared foreign nationals into security areas is rarely allowed and must be handled by the Foreign Visits and Assignments Team.

1.20 Personnel Security Reporting Requirements

Personnel Security Reporting Requirements

Workers who have a security clearance or who are in the process of getting one are required to report the following situations to Personnel Security:

Click on the buttons to learn more:

Marry or Cohabit

Name Change

Extended Leave

marry (Slide Layer)

Personnel Security Reporting Requirements

Workers who have a security clearance or who are in the process of getting one are required to report the following situations to Personnel Security:

Click on the buttons to learn more:

Marry or Cohabit

Name Change

Extended Leave

If you marry or cohabit after being granted a Q or L clearance, you must complete a *DOE Data Report on Spouse/Cohabitant* (Form 5631.34) within 45 days.

name change (Slide Layer)

Personnel Security Reporting Requirements

Workers who have a security clearance or who are in the process of getting one are required to report the following situations to Personnel Security:

Click on the buttons to learn more:

Marry or Cohabit

Name Change

Extended Leave

If you change your name, complete Form 1705, *Name Change Report*, which is available from the Forms Center on the LANL website.

extended (Slide Layer)

Personnel Security Reporting Requirements

Workers who have a security clearance or who are in the process of getting one are required to report the following situations to Personnel Security:

Click on the buttons to learn more:

Marry or Cohabit

Name Change

Extended Leave

If you take extended leave for more than 90 working days, you must notify Personnel Security at 7-7253 as soon as possible.

1.21 Personnel Security Reporting Requirements

Personnel Security Reporting Requirements

You must notify Personnel Security **within one working day** if any of the following occur:

- you have taken legal action for a name change;
- citizenship changes;
- you use any illegal drug, or a legal drug is used in a manner that deviates from approved medical direction;
- you have any arrests, criminal charges (including charges that are dismissed), citations, tickets, summons or detentions are incurred by federal, state, or other law enforcement authorities for violations of law within or outside the US. Traffic violations for which a fine of up to \$300 was imposed need not be reported, unless the violation was alcohol or drug related;
- you have an immediate family member who is or will be assuming residence in a sensitive country, as listed in on the LANL website;
- you have been treated or hospitalized for drug or alcohol abuse;
- you have been employed by, been a representative of, or have other business-related associations with a foreign or foreign-owner interest or non-US citizen or other individual who is both a US citizen and a citizen of a foreign country;
- you have filed for bankruptcy that is personal or business related; and/or
- your wages are garnished.

Contact Personnel Security or go to their website for guidance on reporting incidents.

1.22 Reporting Security Incidents

Reporting Security Incidents

You are required to immediately report any known or potential security incidents to the Security Incident Team (SIT) and your Responsible Line Manager (RLM). Reports must be made to a person and cannot be e-mailed or left on voicemail. Ensure that potentially classified information is discussed only via secure means.

Incidents of Security Concern

Security incidents can include:

- classified information being processed on an unclassified computer;
- the incorrect transmission or reproduction of classified matter;
- the unauthorized or inadvertent disclosure of classified matter;
- unsecured/unattended classified matter and/or container;
- classified matter that is lost, stolen, or unaccounted for;
- attempts to remove, divert, or obtain unauthorized access to classified matter;
- unauthorized access to classified or unclassified information systems/networks;
- any breach or attempted breach of a security area, access controls, or security system;
- the introduction of prohibited/controlled articles into a security area;
- the incorrect use of a security badge; sabotage of LANL facilities;
- known or suspected cases of technical surveillance;
- and any suspicious or criminal activity.

You must also report the theft or misuse of government property. To do so, you may notify your supervisor, your division's security officer, LANL's Investigative Services Team (LIST), or the Employee Concerns Program (ECP) to report issues of waste, fraud, or abuse.

1.23 Substance Abuse Policy

Substance Abuse Policy

The Laboratory is committed to

- providing a safe work environment,
- ensuring public safety, and
- protecting its national security mission.

In support of this commitment, the Laboratory maintains a drug-free workplace. Substance abuse affects worker performance, conduct, and/or reliability and can interfere with the Laboratory mission. Substance abuse includes the use of illegal drugs and the misuse of alcohol or over-the-counter and prescription drugs.

What This Means to You

- LANL workers are subject to random drug testing.
- You may not work while under the influence of alcohol or drugs.
- You may not possess, sell, transfer, or use illegal drugs on Laboratory-operated property.
- You may use your own legally prescribed drugs, as long as they do not affect your work. (If you are taking an over-the-counter or prescription drug that affects your ability to perform your required work, you should either notify your supervisor directly or notify OH.)
- You may not bring or use alcohol on Laboratory-operated property.
- You may be disciplined, up to and including termination, for abusing alcohol or drugs.
- Substance-abuse counseling is available through OH. See the Occupational Health section of this handbook for information about the EAP.

1.24 Nuclear Material Control and Accountability

Nuclear Material Control and Accountability

Many countries, including the U.S., have nuclear material control and accountability (NMCA) programs to control access to and use of nuclear materials.

The DOE and Laboratory NMCA programs are designed to detect and deter the theft and diversion of accountable nuclear materials. While your job may not involve NMCA activities, the Laboratory is required to comply with DOE Order requirements governing the use of these materials. These requirements include the completion of appropriate and essential documentation, training of personnel authorized to work with nuclear materials, and periodic assessments of compliance with applicable requirements and regulations. For more information, see PD205, *Nuclear Safeguards*, contact the Nuclear Material Control and Accountability group, or visit their website for further guidance.

1.25 Classified Information

Classified Information

Classification is the process of identifying information that would damage national security if it were released to unauthorized persons. Classification allows for the appropriate protection of information. When classified information is improperly disclosed, some degree of damage to national security occurs on a range from serious to exceptionally grave. The extent of this damage potential is used to assign the levels of classification.

Classified information is given a level, as follows:

- top secret (TS),
- secret or (S),
- confidential (C).

Classified information is also categorized as

- restricted data (RD),
- formerly restricted data (FRD),
- Transclassified foreign nuclear information (TFNI), or
- national security information (NSI).

By combining an information level with an information category, a classification can be assigned to document, such as top secret restricted data (TSRD) or confidential national security information (CNSI). Once classified, these documents are uniquely and prominently marked as such.

1.26 Accessing Classified Information

Accessing Classified Information

Should your job require access to classified information, you will need the appropriate security clearance and a "need to know." Need to know is not simply an expedience, but the determination that a prospective recipient requires access to specific classified information to perform or assist in a lawful and authorized government function. Before you are allowed access to classified information, you will receive more information and training. At this point, however, here are just a few things to remember.

Classified matter should never be left unattended or unprotected. If you find classified matter in an inappropriate area, notify your RLM or the SIT immediately. However, if your life or safety is in jeopardy and your building is being evacuated, a safe evacuation is your first priority. In this case, you should:

- Leave any classified matter, computer terminals, storage repositories, and special nuclear material as is, and evacuate the area immediately.
- Report any materials or repositories left unattended to your RLM and the SIT.
- When the area is reoccupied, examine and account for the materials and repositories immediately.

1.27 Controlled Unclassified Information (CUI)

Controlled Unclassified Information (CUI)

Some information is controlled, even though it is not classified. Some types are

- unclassified controlled nuclear information (UCNI);
- export-controlled information (ECI);
- official use only (OUO), which includes personal/privacy information, company proprietary information, and information required by law to be withheld from public release; and
- personally identifiable information (PII), such as social security numbers, date and place of birth, and medical and employment records.

CUI, if released, could help a terrorist gain access to nuclear materials, compromise technology with military or security applications, or compromise administrative or personnel information. Many categories of CUI, when in electronic form, require data encryption when sent or carried offsite. Any known or suspected loss of PII must be reported immediately.

Your CUI Responsibilities

If you work with CUI, your RLM will instruct you on the proper procedures for handling it. If you find CUI in an inappropriate area, protect the information and notify your RLM immediately.

1.28 Information Security

Information Security

The goal of the information security program is to protect the confidentiality, integrity, and availability of information. Also referred to as cyber security, information security involves

- information - generated, processed, transmitted and/or stored on the system;
- hardware - the physical parts of the computer itself;
- software - the operating systems and programs;
- media - devices that store information and programs, such as magnetic, optical, or solid state; and
- networks - multiple computers interconnected over various communications lines.

A cyber security incident is any event or threat that affects normal operations of or has an undesirable impact on a computer system and/or computing facility, such as attempted access to computing resources without authorization or contamination of an unclassified system with classified information. Incidents may also include using a computer system in connection with criminal acts, unsanctioned work, or fraud and abuse.

1.29 Information Security Reminders

Information Security Reminders

As a Laboratory General User, you are required to participate actively in information security by following all policies and procedures set forth by DOE and the Laboratory. When you use a Laboratory system, you agree to the terms and conditions of use, including the possibility that your system may be audited, monitored, copied, confiscated, or inspected. Here are some tips for good information security:

- Use your computer system(s) for official purposes while following specific work area rules.
- Protect your system(s) from unauthorized access.
- Follow the Laboratory password policy. Use complex passwords, and never share your password or PIN.
- Understand and implement required information security protections and mitigations: use anti-malware protection and perform regular backups of information of institutional interest.
- Install only information-architecture-approved hardware and software.
- Conduct everyday computing activities - logging into your system, reading e-mail or web, or creating a document - using your default General User authority.
- The Laboratory protects personally identifiable information (PII). Immediately report the loss of PII to the Security Incident Team (SIT).
- Be aware of threats to information security, such as insiders and phishing.
- Do not download attachments or click on links in suspicious e-mails, which can lead to malware or ransomware being installed on your computer.
- Promptly report any suspected information security incidents to the SIT.
- Do not insert a non-government thumb drive into your workstation.

1.30 Counterintelligence

Counterintelligence

The mission of the Office of Counterintelligence (OCI) is to protect LANL and its employees from efforts by foreign intelligence services and terrorist groups to acquire sensitive and classified information. OCI is responsible for these programs:

- 1 The Counterintelligence (CI) Program opposes efforts by foreign intelligence services and terrorist groups that try to recruit employees who have access to classified or sensitive information.
- 2 Foreign Visits and Assignments (FV&A) facilitates foreign national visits to the Laboratory. Non-US citizens are not permitted on LANL property without prior approval. For more information, contact the FV&A office.
- 3 Immigration Services facilitates the employment of international personnel and scientific collaborations.

Operations Security (OPSEC) is a Laboratory-wide program to ensure that sensitive information is protected from inadvertent and unauthorized disclosure.

1.31 Counterintelligence Threats and Methods

Counterintelligence Threats and Methods

As a LANL employee, you could be the target of illegal or unauthorized attempts to gain access to classified or sensitive information, technology, or special nuclear material and must report any attempts to breach this security. The hostile intelligence threat is twofold:

- information obtained about classified programs can be used to damage national security and
- illegally obtained research and development technology could result in significant loss to the US.

Although intelligence agencies use many collection methods, the two methods in particular that should concern you if you work with classified or sensitive programs at the Laboratory are trained information collectors trying to elicit information from you and foreign intelligence agents trying to recruit workers in facilities or programs of interest to them.

Remember: you must report all contacts you have-on or off the job-with individuals of any nationality who attempt to obtain illegal or unauthorized access to classified or sensitive information or who may be targeting you for actual or attempted exploitation by a foreign country.

Travel to Sensitive Countries

Any LANL workers who are planning to travel to a sensitive country for pleasure or for business must contact OCI 30 days before they leave. A current list of sensitive countries is available online from the Laboratory's homepage under OCI.

1.32 What Lies Ahead

What Lies Ahead

In the next module, we will look at some of the things you should know about fire protection at the Laboratory, emergency operations, procedures for reporting emergencies, and what your role and responsibilities are as a LANL worker in emergency situations.

But first, a knowledge check.

1.33 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

The Laboratory's substance abuse policy applies to

- ☐ the misuse of alcohol.
- ☐ the misuse of prescription drugs.
- ☐ the use of illegal drugs.
- ☒ all of the above.

Correct	Choice
	the misuse of alcohol.

	the misuse of prescription drugs.
	the use of illegal drugs.
X	all of the above.

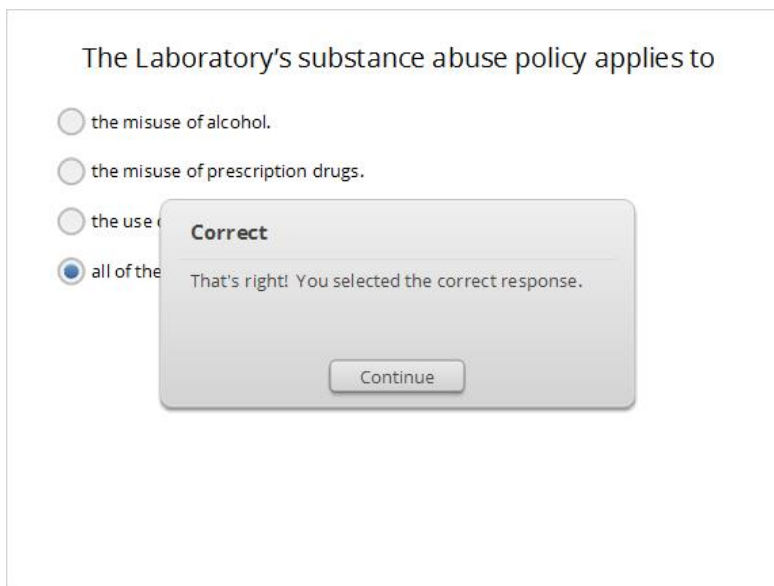
Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)



Incorrect (Slide Layer)

The Laboratory's substance abuse policy applies to

- ☐ the misuse of alcohol.
- ☐ the misuse of prescription drugs.
- ☐ the use of
- ☒ all of the

Incorrect

You did not select the correct response.

Continue

1.34 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

All of the following are classification levels, except

- ☐ secret
- ☒ restricted
- ☐ confidential
- ☐ top secret

Correct	Choice
	secret

X	restricted
	confidential
	top secret

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)

All of the following are classification levels, except

☐ secret
☒ restricted
☐ confidential
☐ top secret

Correct

That's right! You selected the correct response.

Continue

Incorrect (Slide Layer)

All of the following are classification levels, except

- ☐ secret
- ☒ restricted
- ☐ confiden
- ☐ top secr

Incorrect

You did not select the correct response.

Continue

1.35 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

Controlled unclassified information, if released, could

- ☐ compromise personnel information
- ☐ help a terrorist gain access to nuclear material
- ☐ compromise military technology
- ☒ all of the above

Correct	Choice
	compromise personnel information

	help a terrorist gain access to nuclear material
	compromise military technology
X	all of the above

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)

Controlled unclassified information, if released, could

- ☐ compromise personnel information
- ☐ help a terrorist gain access to nuclear material
- ☐ compromise military technology
- ☒ all of the above

Correct

That's right! You selected the correct response.

[Continue](#)

Incorrect (Slide Layer)

Controlled unclassified information, if released, could

- ☐ compromise personnel information
- ☐ help a terrorist
- ☐ compromise national security
- ☒ all of the above

Incorrect

You did not select the correct response.

Continue

1.36 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

What should you do if you find unprotected classified information?

- ☐ make sure no one else knows about it.
- ☒ notify your line manager or the SIT immediately.
- ☐ hide it immediately.
- ☐ go about your business if you do not have a security clearance.

Correct	Choice
	make sure no one else knows about it.

X	notify your line manager or the SIT immediately.
	hide it immediately.
	go about your business if you do not have a security clearance.

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)

What should you do if you find unprotected classified information?

- ☐ make sure no one else knows about it.
- ☒ notify your line manager or the SIT immediately.
- ☐ hide it in a safe.
- ☐ go about your business if you do not have a security clearance.

Correct

That's right! You selected the correct response.

[Continue](#)

Incorrect (Slide Layer)

What should you do if you find unprotected classified information?

- ☐ make sure no one else knows about it.
- ☒ notify your supervisor.
- ☐ hide it in your desk drawer.
- ☐ go about your business.

Incorrect
You did not select the correct response.
[Continue](#)

1.37 End of Module

End of Module

You have come to the end of Module Six. Close the browser window and launch the next module.

Notes:

GET-fire emergency ops-module7

1. Section 1 - Fire Prevention

1.1 Fire Protection



Notes:

1.2 Fire Protection

Section One – Fire Prevention

Fire Protection

Fire is the third leading cause of accidental death in the US. More than 70 workplace fires occur every day, yet most people fail to prepare for the possibility of a life-threatening fire. LANL is required to comply with the National Fire Protection Association's (NFPA's) codes and standards. Statistics have shown that complying with these codes and standards has greatly reduced the loss of life and property to fire incidents.

Your First Responsibility is to Protect Yourself

Your first responsibility in any fire is to protect yourself. To do that, you need to know the emergency procedures for the safe and rapid evacuation of your building and the Laboratory, your building's evacuation routes and exit locations, and the location of manual alarm pull boxes and fire extinguishers in your building. Be sure you know the sound of alarms in your facility and the location of your building's assembly area.

Notes:

1.3 Wildfires

Wildfires

Los Alamos National Laboratory is surrounded by a mostly Ponderosa pine forest that is frequently vulnerable to fire during dry, windy seasons. Extreme wildland fire conditions can arrive as early as February, depending on winter precipitation, snow pack levels, spring-like weather and winds, and forest conditions.

As a result, the Laboratory has had several dangerous and costly wildfires threaten its property in recent memory. In May 2000, the Cerro Grande fire burned 48,000 acres and destroyed the homes of more than 400 Los Alamos families, causing total damages of more than \$1 billion. More recently, the Las Conchas fire of June 2011 destroyed 150,000 acres of forest, burned 63 homes southwest of Los Alamos County, and threatened Laboratory property and the town of Cochiti and the Santa Clara Pueblo for more than a month before finally being extinguished.

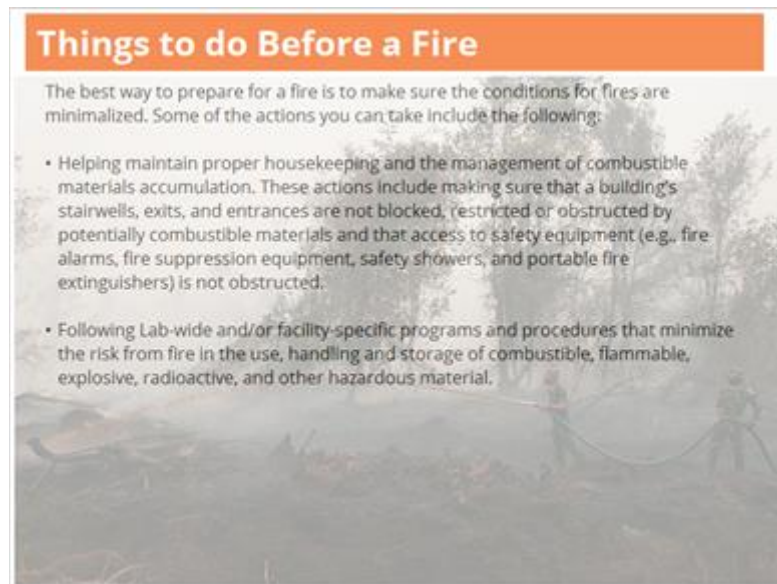
Although each of these, and numerous other smaller wildfires, had different ignition sources, they serve as a constant reminder of the need for fire protection at work and at home. At home, be especially careful when throwing away any lighted materials, such as matches, cigarettes, or ashes. At work, report any fire hazards, such as trash piles and overgrown brush near a building, to your facility manager. Use suitable safety devices, such as spark suppressors, on vehicles and equipment to reduce the potential for emitting sparks, embers, or hot materials that might ignite a fire.

1.4 Things to do Before a Fire

Things to do Before a Fire

The best way to prepare for a fire is to make sure the conditions for fires are minimized. Some of the actions you can take include the following:

- Helping maintain proper housekeeping and the management of combustible materials accumulation. These actions include making sure that a building's stairwells, exits, and entrances are not blocked, restricted or obstructed by potentially combustible materials and that access to safety equipment (e.g., fire alarms, fire suppression equipment, safety showers, and portable fire extinguishers) is not obstructed.
- Following Lab-wide and/or facility-specific programs and procedures that minimize the risk from fire in the use, handling and storage of combustible, flammable, explosive, radioactive, and other hazardous material.




1.5 Things to do Before a Fire

Things to do Before a Fire

The best way to prepare for a fire is to make sure the conditions for fires are minimized. Some of the actions you can take include the following:

- Be aware of "Red Flag" days at the Laboratory. The United States Forest Service has developed criteria for Red Flag conditions that assess High to Extreme fire dangers against critical weather conditions, including the potential for a significant increase in surface winds (sustained 20 miles per hour with stronger gusts possible); dry thunderstorm outbreaks; significant decreases in relative humidity or a significant increase in temperature; and the first episode of thunderstorms after a hot, dry period.
- Under Red Flag conditions, certain work activities at the Laboratory may be restricted. Other times, dry forest conditions may require that driving or hiking off established LANL roadways be restricted to mission essential, ES&H and/or regulatory essential activities.



1.6 Preventing Fires

Preventing Fires

As part of Integrated Safety Management (ISM), the Laboratory encourages fire prevention in your daily work activities. Different strategies must be used to prevent different classes of fires. Fires are classified by the type of material they are burning. An important part of fighting fires is knowing the five classes of fires:

Click on each button to learn more

Class A

Class B

Class C

Class D

Class K

A (Slide Layer)

Preventing Fires

As part of Integrated Safety Management (ISM), the Laboratory encourages fire prevention in your daily work activities. Different strategies must be used to prevent different classes of fires. Fires are classified by the type of material they are burning. An important part of fighting fires is knowing the five classes of fires:

Click on each button to learn more

Class A

Class B

Class C

Class D

Class K

Class A: ordinary combustibles, such as wood, cloth, paper, rubber, plastic, and other common materials.

Preventing Class A: Ordinary Combustibles Fires

- Keep stairways, corridors, equipment rooms, offices, and work areas free of combustibles, such as trash, wood or paper, and cardboard boxes.
- Place oily rags in approved, covered containers to avoid spontaneous ignition.

B (Slide Layer)

Preventing Fires

As part of Integrated Safety Management (ISM), the Laboratory encourages fire prevention in your daily work activities. Different strategies must be used to prevent different classes of fires. Fires are classified by the type of material they are burning. An important part of fighting fires is knowing the five classes of fires:

Click on each button to learn more

Class A

Class B

Class C

Class D

Class K

Class B: flammable or combustible liquids, such as gasoline, kerosene, paint, paint thinner, and propane.

Preventing Class B: Flammable and Combustible Liquid or Gas Fires

- Do not refuel gasoline-powered equipment near an open flame, such as a furnace or water heater.
- Do not refuel gasoline-powered equipment while the equipment is hot or the power is on (including leaving your car running while filling the fuel tank).
- Use flammable liquids or gases only in well-ventilated areas.
- Keep only a working supply of flammable materials on hand. Store excess materials in approved containers and/or cabinets.
- Store flammable liquids in approved, tightly closed or properly vented, spill-proof containers.
- Do not store flammable liquids or gases on stairways, in corridors, or in equipment rooms.

C (Slide Layer)

Preventing Fires

As part of Integrated Safety Management (ISM), the Laboratory encourages fire prevention in your daily work activities. Different strategies must be used to prevent different classes of fires. Fires are classified by the type of material they are burning. An important part of fighting fires is knowing the five classes of fires:

Click on each button to learn more

Class A

Class B

Class C

Class D

Class K

Class C: energized electrical equipment, such as appliances, switches, panel boxes, and power tools.

Preventing Class C: Electrical Equipment Fires

- Replace old wiring, worn insulation, and broken electrical fittings.
- Prevent motors from overheating by keeping them clean and in good working order. Keep combustibles away from motors.
- Use extension cords on a temporary basis only.
- Avoid running extension cords where they may be damaged by foot or vehicle traffic.

D (Slide Layer)

Preventing Fires

As part of Integrated Safety Management (ISM), the Laboratory encourages fire prevention in your daily work activities. Different strategies must be used to prevent different classes of fires. Fires are classified by the type of material they are burning. An important part of fighting fires is knowing the five classes of fires:

Click on each button to learn more

Class A

Class B

Class C

Class D

Class K

Class D: certain combustible metals, such as lithium, magnesium, potassium, sodium, titanium, plutonium, and uranium.

Preventing Class D: Combustible Metal Fires

- 1 Know whether the metals you use are combustible, such as sodium or lithium.
- 2 Store materials in a way that keeps combustible metals from igniting. For example, pure sodium that comes in contact with water will ignite.

Store combustible metals in approved containers.

K (Slide Layer)

Preventing Fires

As part of Integrated Safety Management (ISM), the Laboratory encourages fire prevention in your daily work activities. Different strategies must be used to prevent different classes of fires. Fires are classified by the type of material they are burning. An important part of fighting fires is knowing the five classes of fires:

Click on each button to learn more

Class A

Class B

Class C

Class D

Class K

Class K: combustible cooking media, such as cooking oils, fat, and grease commonly found in commercial kitchens.

Preventing Class K: Cooking Oil Fires

- 1 Never leave oil cooking unattended.
- 2 Maintain appropriate cooking temperatures.
- 3 Regularly clean grill surfaces and adjacent cooking areas.
- 4 Never throw water on a grease fire.

1.7 Steps to Follow in the Event of a Fire

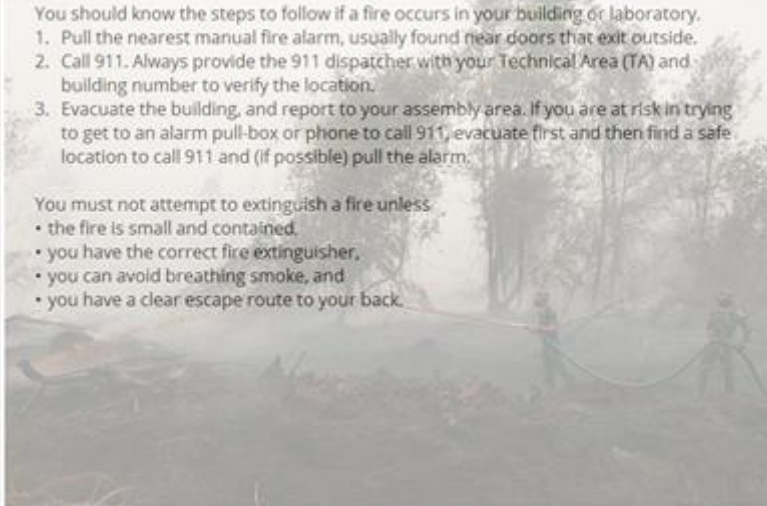
Steps to Follow in the Event of a Fire

You should know the steps to follow if a fire occurs in your building or laboratory.

1. Pull the nearest manual fire alarm, usually found near doors that exit outside.
2. Call 911. Always provide the 911 dispatcher with your Technical Area (TA) and building number to verify the location.
3. Evacuate the building, and report to your assembly area. If you are at risk in trying to get to an alarm pull-box or phone to call 911, evacuate first and then find a safe location to call 911 and (if possible) pull the alarm.

You must not attempt to extinguish a fire unless

- the fire is small and contained,
- you have the correct fire extinguisher,
- you can avoid breathing smoke, and
- you have a clear escape route to your back.



1.8 Extinguishing Fire

Extinguishing Fire

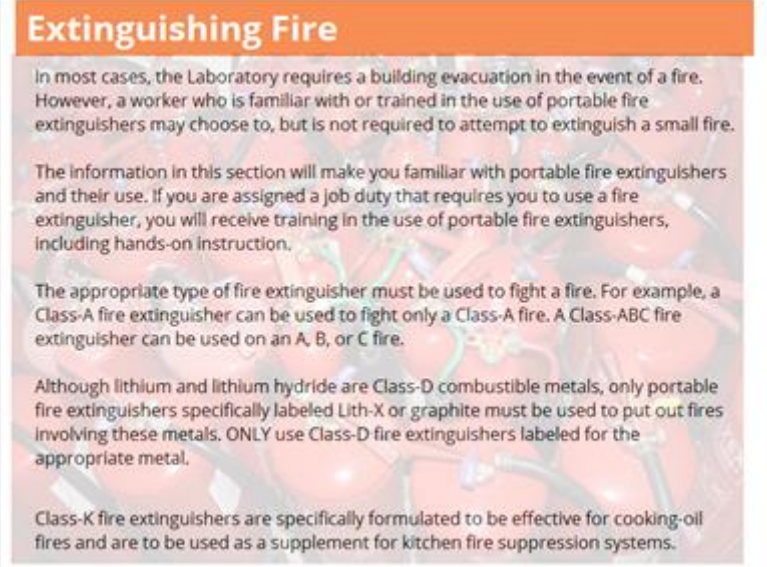
In most cases, the Laboratory requires a building evacuation in the event of a fire. However, a worker who is familiar with or trained in the use of portable fire extinguishers may choose to, but is not required to attempt to extinguish a small fire.

The information in this section will make you familiar with portable fire extinguishers and their use. If you are assigned a job duty that requires you to use a fire extinguisher, you will receive training in the use of portable fire extinguishers, including hands-on instruction.

The appropriate type of fire extinguisher must be used to fight a fire. For example, a Class-A fire extinguisher can be used to fight only a Class-A fire. A Class-ABC fire extinguisher can be used on an A, B, or C fire.

Although lithium and lithium hydride are Class-D combustible metals, only portable fire extinguishers specifically labeled Lith-X or graphite must be used to put out fires involving these metals. ONLY use Class-D fire extinguishers labeled for the appropriate metal.

Class-K fire extinguishers are specifically formulated to be effective for cooking-oil fires and are to be used as a supplement for kitchen fire suppression systems.



1.9 Using a Portable Fire Extinguisher

Using a Portable Fire Extinguisher

To operate a fire extinguisher, use the pull, aim, squeeze, sweep (PASS) method:

1. **Pull** the pin: on some extinguishers, release a lock latch or press a puncture lever.
2. **Aim** low: point the nozzle at the base of the fire.
3. **Squeeze** the handle.
4. **Sweep** from side to side: sweep back and forth, slowly, until the fire is out.



1.10 Using a Portable Fire Extinguisher

Using a Portable Fire Extinguisher

If, in your judgment, the fire cannot be put out with a portable fire extinguisher, evacuate the building and report to your assembly area. Roll call will be taken to ensure that everyone is out of the building.

When you evacuate a burning building, take the following precautions:

- Never open a door without first putting the back of your hand near the door to sense if it is hot. If the door is hot, try another exit.
- If you are the last one out of a room, close the door but do not lock it. Locking the door will slow down the fire department's search and rescue efforts.
- Go to the nearest exit.
- Do not use elevators.
- Stay low to avoid smoke and toxic gases. The best air is usually close to the floor, so crawl if you have to.
- If possible, cover your mouth and nose with a dry (not damp) cloth to filter the air you breathe. Heat can turn moisture in a damp cloth to steam, which could burn your throat and lungs.

1.11 If You Are Trapped in a Burning Building

If You Are Trapped in a Burning Building

If you are trapped in a burning building, close all doors and seal all cracks around doors and vents. If possible, call 911 and report exactly where you are. Open a window only if you can escape through it or if you are having difficulty breathing. But be aware that an open window can create a draft and draw smoke and fire toward it.

2. Section 2 - Emergency Operations

2.1 Emergency Operations

Section Two – Emergency Operations

Emergency Operations

LANL's Security and Emergency Operations division serves the Laboratory, DOE/NNSA, and the surrounding community by providing emergency planning and preparedness services in order to minimize or mitigate the consequences of an emergency incident; protect the health and safety of workers, the public, and the environment; and ensure national security.

The Emergency Management Group consists of personnel who ensure readiness and operability of the Emergency Operations Center (EOC) and emergency managers who are deployed from the EOC to the incident scene to assume command. The EOC is staffed continuously day and night. During any event when you need to call 911, you should also call the EOC at 667-6211.

Note: It is a good idea to add the LANL EOC as a contact on your cell phone at 505-667-6211. In fact, you might want to do that right now.



2.2 Emergency Operations

Section Two – Emergency Operations

Emergency Operations

The Emergency Response Group provides a range of emergency services to the Laboratory and community and comprises two highly trained specialty teams. The Hazardous Devices Team is the bomb squad for DOE property that investigates and, when necessary, disposes of unclaimed, unattended, or untagged packages and military ordnance. The Hazardous Materials (HAZMAT) Team responds to hazardous materials emergencies.

Note: Make sure any backpacks, lunch bags, briefcases, or other bags are tagged with your contact information. You will learn more about how and why to do this later in this course.

The Laboratory also maintains a larger, multiagency Emergency Response Organization that is made up of LANL managers and Subject Matter Experts, Los Alamos County organizations, and state and federal agencies.

2.3 Continuity of Operations (COOP)

Continuity of Operations (COOP)

The Laboratory's COOP Program ensures the performance of mission-essential functions in emergencies that may disrupt normal operations. As a LANL worker, your responsibilities include using established methods, such as phone trees and group e-mail, to report your status to your normal chain of command. If you are deemed to be essential personnel, who are required to work in emergencies, you will receive additional information and training.

2.4 Building Emergency Plans and Maps

Building Emergency Plans and Maps

LANL's Building Emergency Plan Program, through the development and implementation of building emergency plans and procedures, assists workers in knowing what to do in the event of an emergency.

Each building or work area has a building emergency plan, which provides emergency procedure information for that location, including the building's main hazards; the emergency procedures for evacuation and evacuation procedures; and the location of manual alarm pull-boxes and fire extinguishers. In your new work area, you should

- find and review the evacuation maps posted in your work area,
- review the site evacuation map routes for your work location,
- find and review the building emergency plan for your work area,
- know your building designation and TA, and
- talk to your supervisor about what to do in an emergency; ask questions to ensure you fully understand.

Posted throughout all Laboratory buildings, building evacuation maps show evacuation routes and exits, as well as the location of fire alarms, emergency equipment (such as fire extinguishers and first aid kits), and assembly areas (where to gather outside after evacuating the building).



2.5 Emergency Training, Drills, and Exercises

Emergency Training, Drills, and Exercises

The Laboratory is required to provide initial training and periodic drills/exercises to all workers who may be required to take protective actions. You will practice evacuation and assembly in your work area. You may also participate in planned exercises to test your FOD's emergency response capabilities. *Remember*, no set of instructions can cover every type of emergency situation. Common sense and knowing your emergency procedures and protective actions will help you mitigate a hazardous event until additional help arrives.



2.6 Evacuate or Shelter in Place?

Evacuate or Shelter in Place?

When faced with an emergency situation, use common sense and available information to determine whether any danger is immediate. Depending on the circumstances and type of emergency, the first decision is whether to evacuate or shelter in place. You must understand and plan for both possibilities.

At LANL, EOC personnel and the incident commander are trained to make the decision of whether to evacuate or shelter. Notification for either protective action may come from management, the Laboratory Communications Office, or the Mass Notification System, which will be used to contact the LANL workforce with protective action instructions via office phones, LANL cell phones, and pagers. Text messages will be sent to pagers and e-mail messages to Lab accounts.

LANL may also at times experience work delays or closures due to inclement weather or unexpected Laboratory emergencies. To obtain the most current information on Laboratory emergencies, delays, and closures, check the LANL homepage or call the Lab Update Hotline at 667-6622 (toll free at 1-877-723-4101).

2.7 Site-Wide Evacuations

Site-Wide Evacuations

LANL covers roughly 36 square miles with three major roads leaving toward the east and one major road to the west. During an evacuation, all available roadways will be used to distribute vehicles as evenly as possible in an attempt to reduce congestion. Early dismissals and closures of the Laboratory because of dangerous weather conditions or emergency events could require a site-wide evacuation. Depending on the nature of the emergency and its urgency, a decision will be made whether to evacuate the entire site or just specific zones.

2.8 Building Evacuations

Building Evacuations

Building occupants may need to evacuate in the event of a chemical spill, fire, suspicious package/bomb threat, or other emergency. Once evacuated, personnel need to assemble at their designated assembly area for accountability. If necessary, alternate assembly areas will be identified when the building evacuation is issued and should be located uphill and upwind from the emergency event. Notifications of additional protective actions and the release to return to your building will be announced at the assembly area by the assembly area leader.

At the assembly point, the assembly area leader will gather information on the safety of personnel, the emergency situation, and any other relevant information. The assembly area leader will then act as the point of contact upon the arrival of emergency response personnel.

Depending on the type of incident, an emergency manager, the senior fire department representative, the senior police representative, or another appropriately trained individual will serve as the incident commander. The incident commander is the individual with authority and responsibility for command and control at an incident scene.

2.9 Your Responsibilities during an Evacuation

Your Responsibilities during an Evacuation

Upon hearing the notification to evacuate (an alarm or verbal notification), all occupants must evacuate the building immediately according to the following guidelines:

- if safe to do so and with minimal delay, place hazardous operations and materials into a safe standby configuration;
- if accessible and safe to do so, take your coat, handbag/briefcase, and car keys in the event you are not allowed to reenter the building;
- do not carry food, drinks, or items that, if dropped, could inhibit safe egress or cause slips, trips, or falls;
- conduct a visual sweep along the exit route, looking for safety issues or anyone who might need assistance with evacuation;
- escort visitors and contractors to the designated assembly area;
- do not use elevators;
- if it is safe to do so and will cause only minimal delay, take steps to deter others from entering. For example, post a sign in the area and close the door without locking it;
- proceed to the designated assembly area using the evacuation route (i.e., if the route is blocked by unsafe conditions, take the nearest safe path out of the building);
- report to the designated assembly area for accountability;
- be aware of and give the right of way to responding emergency vehicles and personnel; and
- remain quiet and orderly at the designated assembly area, and wait for further instructions or until the all-clear signal is given by the incident commander or designee.



2.10 Visitor Evacuation

Visitor Evacuation

All invited guests, visitors, and outside personnel (including craft workers) conducting business in a building are the responsibility of the person being visited. If an emergency evacuation occurs, building residents who are escorting a visitor are responsible for ensuring that the visitor has an appropriate level of briefing and understands how to respond to an emergency.



2.11 Building Reentry

Building Reentry

After an evacuation the first entry is made by emergency responders, who will determine if the area is safe for personnel. Do not reenter the building until instructed to do so by the assembly area leader (who must in turn be instructed by the incident commander). The incident commander is the only person authorized to give directions to return to the building.

2.12 Reporting an Emergency

Reporting an Emergency

You must immediately and properly report any emergency or abnormal event that may adversely affect you, your fellow workers, the public's health and safety, or the environment.

When the fire department, the police, or an ambulance is needed, call 911 and provide a description of the emergency, the location, and any protective actions taken. Then call the EOC at 667-6211 and notify your line manager.

For all other incidents or for concerns that do not pose an immediate threat to life or property but have the potential of such a threat, call the EOC and provide a description of the situation, location, and protective actions taken; then notify your line management.

2.13 Hazardous Events – Earthquakes and Inclement Weather

Hazardous Events – Earthquakes and Inclement Weather

Workers who have a security clearance or who are in the process of getting one are required to report the following situations to Personnel Security:

[Click on each button to learn more](#)

Earthquakes

Snow and Ice

Flooding

Lightning

earthquakes (Slide Layer)

Hazardous Events – Earthquakes and Inclement Weather

Workers who have a security clearance or who are in the process of getting one are required to report the following situations to Personnel Security.

[Click on each button to learn more](#)

Earthquakes

Snow and Ice

Flooding

Lightning

Earthquakes

- Take the following precautions during an earthquake:
 - Stay calm, and help keep others calm.
 - If you are indoors, stay there. To avoid falling objects and flying glass, get under an inside doorway, into an inside corner of the room, or under a desk or table.
 - If you are outdoors, move away from power lines, buildings, and other structures that could collapse.
- Take the following precautions after an earthquake:
 - Do not smoke, light matches, or operate electrical devices that could ignite gas leaks.
 - Avoid downed wires and objects in contact with them.
 - Do not use elevators.
 - Use the telephone only in case of emergency or injury to yourself or others.

snow (Slide Layer)

Hazardous Events – Earthquakes and Inclement Weather

Workers who have a security clearance or who are in the process of getting one are required to report the following situations to Personnel Security.

[Click on each button to learn more](#)

Earthquakes

Snow and Ice

Flooding

Lightning

Snow and Ice

- Wear shoes that have a good grip, and to the greatest extent possible, walk only on paths that have been cleared or sanded.
- Stay clear of sagging or downed power lines.
- Heavy snow and ice may cause tree limbs to fall; avoid areas with the heaviest concentration of trees.
- Use extreme caution when driving.

flooding (Slide Layer)

Hazardous Events – Earthquakes and Inclement Weather

Workers who have a security clearance or who are in the process of getting one are required to report the following situations to Personnel Security.

[Click on each button to learn more](#)

Earthquakes

Snow and Ice

Flooding

Lightning

Flooding

If you are outdoors,

- move to higher ground;
- avoid walking or driving through flood water; and
- abandon your car at once if it has stalled, and move to higher ground.

If you are indoors,

- be ready to evacuate as directed by emergency responders and
- move vital material and equipment to higher ground (time permitting).

lightning (Slide Layer)

Hazardous Events – Earthquakes and Inclement Weather

Workers who have a security clearance or who are in the process of getting one are required to report the following situations to Personnel Security.

[Click on each button to learn more](#)

Earthquakes

Snow and Ice

Flooding

Lightning

Lightning

New Mexico has a high incidence of lightning strikes. When you see lightning,

- move to a safe location during thunderstorms to minimize the chance of injury;
- crouch low with feet together, or kneel (providing a single point of contact with the ground); and
- avoid contact with trees and metal objects, including bicycles. Find a low spot-not prone to flooding-away from trees, fences, and poles.

2.14 Hazardous Substance/Chemical Spills

Hazardous Substance/Chemical Spills

Individuals must not attempt to control spills that are outside their approved work activity. Individuals must adhere to the following guidelines:

- Isolate the area, leave, and warn others to stay away.
- Move uphill and upwind.
- Immediately report the spill to the EOC at 667-6211. Be specific about the nature and location of the spilled materials.
- If you are exposed to chemicals, use the emergency eyewash/shower. Follow Safety Data Sheet (SDS, formerly MSDS) information.
- If a radioactive substance has spilled, call the RCT.
- Notify your responsible line manager and the Facility Operation Director (FOD).

Individuals with training, appropriate PPE, and appropriate spill containment material on hand may control a spill within their approved work activity

2.15 Bomb Threats

Bomb Threats

If you receive a bomb threat, adhere to the following guidelines and the Laboratory's Bomb Threat checklist:

- Remain calm.
- If available, write down the phone number that appears on the caller identification screen.
- After the caller hangs up,
 - immediately call 911,
 - give all available information to the operator,
 - call the EOC at 7-6211, and
 - notify your supervisor.
- Do not pull the fire alarm pull box.
- Do not open/close windows or doors unless they are used to exit.
- Do not touch light switches during a bomb threat evacuation.
- Leave your office/room if instructed to do so.
- Evacuate to the assembly area in an orderly manner.

Avoid ALL radio and cell phone communications. Do not use two-way radios or cellular telephones. The first person to arrive at the assembly area should quickly scan for any suspicious items there. If a secondary device or suspicious item is found, immediately notify the incident commander and proceed to an alternate assembly area.

To locate the Bomb Threat Checklist on the Laboratory's home page, go the Safety tab at the top of the page and click on the Emergency link. The Bomb Threat checklist is located under the list of Quick links on the page.

2.16 Tag Your Bags

Tag Your Bags

Security and safety are always a top priority. LANL requires that all personal items be properly tagged. Untagged bags abandoned in public places at the Laboratory are assumed by the Hazardous Devices Team to be hazardous devices.

If the owner cannot be located, the item(s) will be destroyed. Do your part to prevent disruptive and expensive false alarms by taking the time to tag your bags. The tag should identify you as the owner and list a number where you can be reached.

You may use any form of identification tags on your bags, such as airline luggage tags, as long as these tags are securely attached to your bags and contain your name and contact information.

2.17 Unclaimed, Unattended Objects

Unclaimed, Unattended Objects

Although it may not initially appear to be a problem, an unattended package, backpack, coolers, or luggage where the owner cannot be determined is considered to be unclaimed and a possible security threat. If an unclaimed, unattended package or device is found, you should

- Immediately call 911 and the EOC at 7-6211, preferably from a landline phone in a safe location;
- DO NOT pull the fire alarm;
- NEVER move, bump, or touch the object. The removal/disarming of a bomb must be left up to the professionals with the Hazardous Devices Team;
- secure the area, and prevent anyone from entering;
- evacuate the immediate area. The danger area should be identified and blocked off with a clear zone of at least 300 feet, including the area above and below the object;
- avoid ALL radio and cell phone communications. Do not use two-way radios or cellular telephones because they could cause premature detonation of an electronic initiator;
- notify your senior management; and
- thoroughly wash your hands with soap and water if you are exposed to the suspicious package. Take care to not abrade the skin when washing.

2.18 Special Materials Convoy

Special Materials Convoy

The use of special materials convoys allows LANL to ship most hazardous materials without requiring complete road closures. Special materials convoys can be identified as at least three vehicles: a leading escort vehicle, a trailing escort vehicle, and a transfer vehicle with flashing lights on the leading and trailing escort vehicles. Flashing red lights on the lead government vehicle are an indication of a convoy. A sign on the trailing escort vehicle will indicate that a transfer is in progress.

LANL, the Los Alamos Site Office, and the Department of Transportation (DOT) have agreed that the Pajarito corridor (Pajarito Road and its adjacent roads) meets the DOT requirements for "onsite transportation" of special materials because public access is protected on both ends by access portals. Although most special materials convoys will take place within the Pajarito corridor, these convoys can occur anywhere on LANL property. Road closures will still be needed during certain conditions inside and outside the Pajarito corridor, but the duration and impact on traffic will be minimal. For convoys outside the Pajarito corridor, warning signs will be posted and personnel will be placed as needed to ensure that public access is restricted.

2.19 Safety Expectations for Special Materials Convoy

Safety Expectations for Special Materials Convoy

A special materials convoy must follow strict regulations. Employees who encounter a special materials convoy in progress must also follow strict regulations. If you encounter a special materials convoy while driving, you **MUST**

- maintain a reduced speed of no more than 35 miles per hour along the transfer route when coming up behind a convoy;
- stay at least 50 feet behind the convoy;
- if the convoy is in the oncoming traffic lanes, move over safely, as far to the right as possible (it is not necessary to make a complete stop);
- yield the right of way to the convoy, especially when the convoy is making a left-hand turn;
- follow all signals, signs, and verbal instructions from convoy personnel; and
- maintain normal traffic flow as much as possible while being consistent with the preceding instructions.

DO NOT

- pass the convoy in the direction of convoy travel,
- panic or pull over if the convoy approaches from behind,
- pull in front of the convoy or get between the escort vehicles and the transfer vehicle, or
- make sudden stops in front of the convoy.

Employees or contractor personnel who do not comply with the special materials convoys safety expectations described above may be subject to disciplinary action.

2.20 What Lies Ahead

What Lies Ahead

In the next module, we will look at the resources and tools necessary to achieve and maintain compliance with federal, state, and internal environmental requirements. But first, a knowledge check.



2.21 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

It is important to know the different classes of fires to

- ☐ decide whether to evacuate a burning building
- ☐ use the proper portable fire extinguisher
- ☐ know how to prevent each class of fire
- ☒ both; use the proper portable fire extinguisher and know how to prevent each class of fire

Correct	Choice
	decide whether to evacuate a burning building

	use the proper portable fire extinguisher
	know how to prevent each class of fire
X	both; use the proper portable fire extinguisher and know how to prevent each class of fire

Feedback when correct:

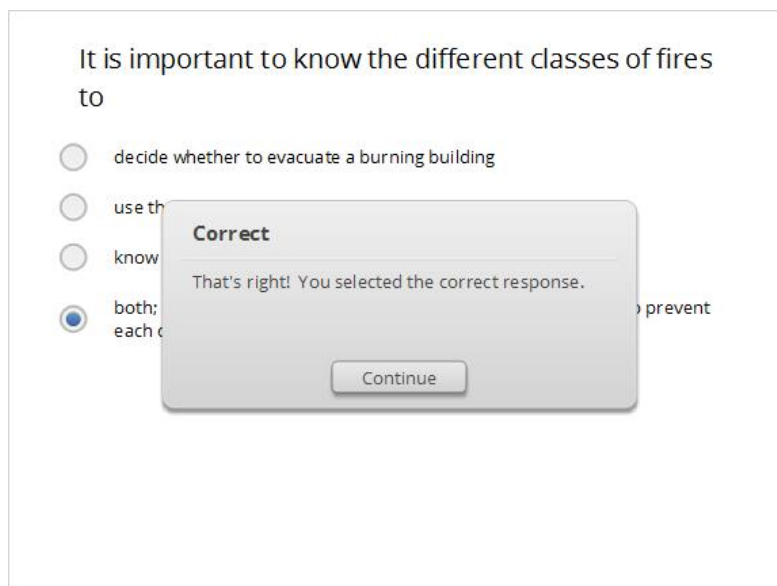
That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'both; use the proper portable fire extinguisher and know how to prevent each class of fire'

Notes:

Correct (Slide Layer)



Incorrect (Slide Layer)

It is important to know the different classes of fires to

- ☐ decide whether to evacuate a burning building
- ☐ use the proper portable fire extinguisher
- ☐ know how to prevent each class of fire
- ☒ both; use the proper portable fire extinguisher and know how to prevent each class of fire

Incorrect

The correct answer is 'both; use the proper portable fire extinguisher and know how to prevent each class of fire'

Continue

2.22 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

Some precautions to take to prevent fires are

- ☐ do not refuel gasoline-powered equipment near open flames or heaters.
- ☐ do not refuel gasoline-powered equipment while it is hot or the power is on.
- ☐ store flammable materials in approved containers.
- ☒ all listed

Correct	Choice
	do not refuel gasoline-powered equipment near open flames or heaters.

	do not refuel gasoline-powered equipment while it is hot or the power is on.
	store flammable materials in approved containers.
X	all listed

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct response is 'all listed.'

Correct (Slide Layer)

Some precautions to take to prevent fires are

- ☐ do not refuel gasoline-powered equipment near open flames or heaters.
- ☐ do not refuel gasoline-powered equipment while it is hot or the power is on.
- ☐ store flammable materials in approved containers.
- ☒ all listed

Correct

That's right! You selected the correct response.

[Continue](#)

Incorrect (Slide Layer)

Some precautions to take to prevent fires are

- ☐ do not refuel gasoline-powered equipment near open flames or heaters.
- ☐ do not refuel gasoline-powered equipment while it is hot or the power is on.
- ☐ store
- ☒ all listed

Incorrect

The correct response is 'all listed.'

Continue

2.23 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

PASS stands for

- ☐ point, aim, start, stop.
- ☒ pull, aim, squeeze, sweep.
- ☐ pass, act, survey, squeeze.
- ☐ pin, act, squeeze, stop.

Correct	Choice
	point, aim, start, stop.

X	pull, aim, squeeze, sweep.
	pass, act, survey, squeeze.
	pin, act, squeeze, stop.

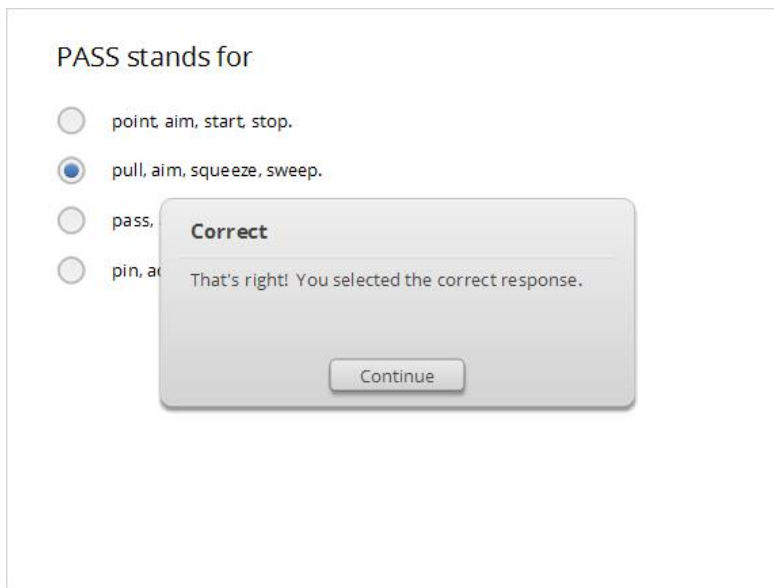
Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'pull, aim, squeeze, sweep.'

Correct (Slide Layer)



Incorrect (Slide Layer)

PASS stands for

- ☐ point, aim, start, stop.
- ☒ pull, aim, squeeze, sweep.
- ☐ pass.
- ☐ pin, a

Incorrect

The correct answer is 'pull, aim, squeeze, sweep.'

Continue

2.24 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

Laboratory policy states

- ☐ do not fight a fire unless told to do so by a coworker.
- ☐ building evacuation is encouraged in the event of a fire.
- ☐ Workers familiar with or trained in the use of portable fire extinguishers may use them on small fires that can be put out safely.
- ☐ both; building evacuation is encouraged in the event of a fire and Workers familiar with or trained in the use of portable fire extinguishers may use them on small fires that can be put out safely.

Correct	Choice
	do not fight a fire unless told to do so by a coworker.

building evacuation is encouraged in the event of a fire.
Workers familiar with or trained in the use of portable fire extinguishers may use them on small fires that can be put out safely.
both; building evacuation is encouraged in the event of a fire and Workers familiar with or trained in the use of portable fire extinguishers may use them on small fires that can be put out safely.

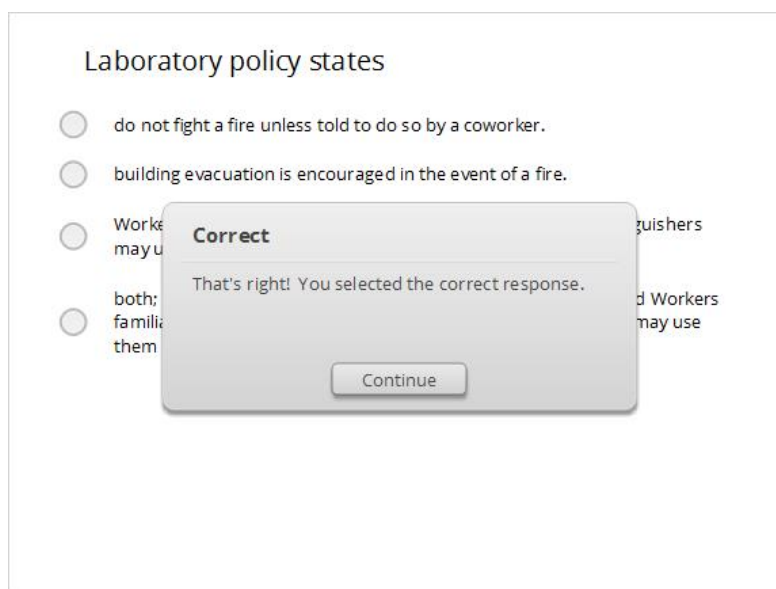
Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'both; building evacuation is encouraged in the event of a fire and Workers familiar with or trained in the use of portable fire extinguishers may use them on small fires that can be put out safely.'

Correct (Slide Layer)



Incorrect (Slide Layer)

Laboratory policy states

- ☐ do not fight a fire unless told to do so by a coworker.
- ☐ building evacuation is encouraged in the event of a fire.
- ☐ Workers may use fire extinguishers
- ☐ both: building evacuation is encouraged in the event of a fire and Workers familiar with or trained in the use of portable fire extinguishers may use them on small fires that can be put out safely.

Incorrect

The correct answer is 'both: building evacuation is encouraged in the event of a fire and Workers familiar with or trained in the use of portable fire extinguishers may use them on small fires that can be put out safely.'

Continue

2.25 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

If evacuation of a burning building is necessary,

- ☐ close the door behind you, but do not lock it
- ☐ do not use elevators
- ☐ stay low to avoid smoke or toxic gases
- ☒ all listed

Correct	Choice
	close the door behind you, but do not lock it

	do not use elevators
	stay low to avoid smoke or toxic gases
X	all listed

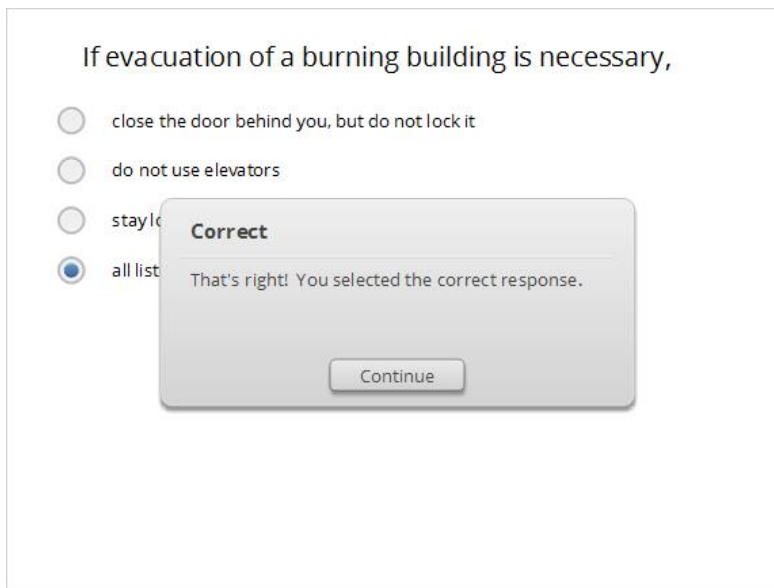
Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'all listed.'

Correct (Slide Layer)



Incorrect (Slide Layer)

If evacuation of a burning building is necessary,

- ☐ close the door behind you, but do not lock it
- ☐ do not use elevators
- ☐ stay low
- ☒ all listed

Incorrect
The correct answer is 'all listed.'

Continue

2.26 End of Module

End of Module

You have come to the end of Module Seven. Close the browser window and launch the next module.

Module8

1. It's Your Environment

1.1 Introduction



Notes:

1.2 Environmental Laws, Regulations, and Laboratory Requirements

Environmental Laws, Regulations, and Laboratory Requirements

Every LANL worker is responsible for protecting the environment. It is your responsibility to be well acquainted with LANL environmental policies that pertain to your job function. These policies satisfy federal and state environmental laws and regulations. Ask your supervisor for the documents you will need to perform your job in accordance with federal, state, and LANL environmental protection requirements. As with any work performed at the Laboratory, remember that both the work and the worker need to be authorized.

Consequences of Noncompliance

Not complying with laws and regulations can result in fines and program closures, as well as damage to human health and the environment. You can be held personally responsible for deliberately violating environmental protection.



Notes:

1.3 Vertical Tabs

Environmental Laws, Regulations, and Laboratory Requirements

LANL's Governing Policy

Federal Laws and Regulations

State Laws and Regulations

Requirements Documents

Los Alamos National Laboratory
Delivering science and technology to protect our nation and promote world stability

SCIENCE & INNOVATIONCOLLABORATIONCAREERS

Environmental Stewardship • Environmental Protection • Obeying Environmental Laws • **Regulators**

Regulators, Requirements, Statutes
The Laboratory must comply with environmental laws and regulations that apply to Laboratory operations.

Click on the items to the left to learn more about environmental laws and regulations.

Notes:

Tab1 lyr (Slide Layer)

Environmental Laws, Regulations, and Laboratory Requirements

LANL's Governing Policy

Federal Laws and Regulations

State Laws and Regulations

Requirements Documents

LANL's Governing Policy on the Environment

The Laboratory has 12 Governing Policies that provide the basis for executing work, accomplishing mission, and providing management and oversight. All work at the Laboratory is executed in accordance with these Governing Policies, applicable work procedures, and responsible worker judgment. One of these Governing Policies concerns the environment and reads as follows:

We are committed to act as stewards of our environment to achieve our mission in accordance with all applicable environmental requirements. We set continual improvement objectives and targets, measure and document our progress, and share our results with our workforce, sponsors, and public. We reduce our environmental risk through legacy clean up, pollution prevention, and long-term sustainability programs.

Tab 2 lyr (Slide Layer)

Environmental Laws, Regulations, and Laboratory Requirements

LANL's Governing Policy

Federal Laws and Regulations

State Laws and Regulations

Requirements Documents

Federal Environmental Laws and Regulations

Numerous federal laws also govern work at the Laboratory for the protection of human health and the environment. Some of these laws include:

NunAEA	Atomic Energy Act
ARPA	Archaeological Resources Protection Act
CAA	Clean Air Act
CWA	Clean Water Act
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
RCRA	Resource Conservation and Recovery Act
SQWA	Safe Drinking Water Act
TSCA	Toxic Substances Control Act

After laws are passed, Congress directs the appropriate federal agency to develop regulations to meet the intent of the laws and to serve as an enforcement mechanism. The Environmental Protection Agency (EPA) is the primary agency responsible for developing federal environmental regulations found in Title 40 of the Code of Federal Regulations (CFR).

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Tab 3 lyr (Slide Layer)

Environmental Laws, Regulations, and Laboratory Requirements

LANL's Governing Policy

Federal Laws and Regulations

State Laws and Regulations

Requirements Documents

State Laws and Regulations

The New Mexico Environment Department (NMED) has been granted authority by the EPA to enforce many environmental laws and regulations. State law governs hazardous waste management activities at the Laboratory, as well as throughout New Mexico. This law is the New Mexico Hazardous Waste Act (NMHWA).

The state of New Mexico also has environmental regulations implementing the NMHWA and other environmental laws. These environmental regulations are designed to

- protect cultural, biological, and natural resources;
- improve air and water quality; and
- control waste storage, treatment, and disposal.

The state environmental regulations are found in Title 20 of the New Mexico Administrative Code (NMAC). . . LANL must comply with all applicable state and/or federal environmental laws and regulations.

Tab 4 lyr (Slide Layer)

Environmental Laws, Regulations, and Laboratory Requirements

LANL's Governing Policy

Federal Laws and Regulations

State Laws and Regulations

Requirements Documents

Environmental Requirements Documents

The Laboratory is committed to protecting workers, the public, and the environment. The Laboratory's environmental policy documents combine safe work practices with environmental compliance requirements called out in federal and state laws and regulations.

LANL also has contractual and legal requirements to carry out federal and state environmental regulations. Mandatory requirements are documented in LANL's operating contract. The methods used to comply are addressed in LANL's policies and procedures. To access Laboratory environmental policy and requirements documents online, select the Environment tab at the top of the LANL homepage.

1.4 Environmental Protection and Compliance



Notes:

1.5 Environmental Protection and Compliance cont.

Environmental Protection and Compliance cont.

EPC's Environmental Compliance Programs group provides expertise and implementation assistance regarding compliance with applicable laws, regulations, and DOE Orders for water resources and air quality. EPC's Environmental Stewardship (ES) group assists the Laboratory in complying with state and federal requirements in the management and monitoring of biological, cultural resources, and support of the National Environmental Policy Act (NEPA).

Videos

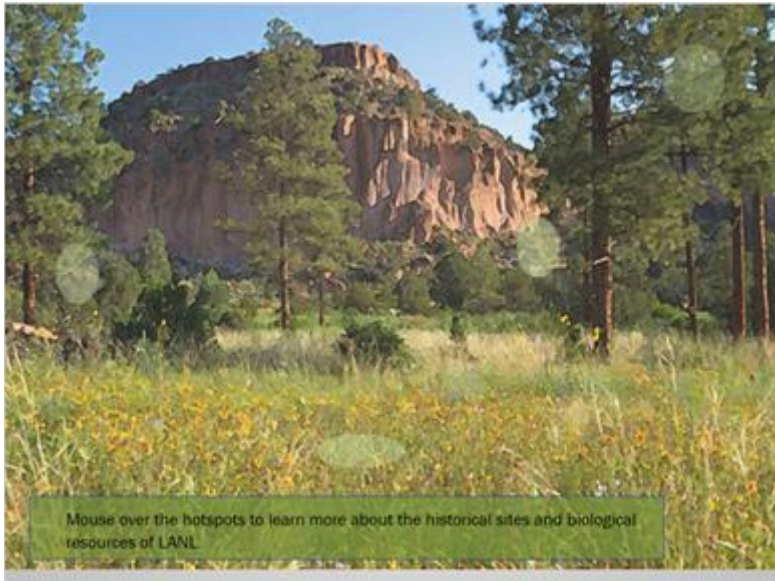
- Learn about NEPA and your responsibilities to it. Watch our [NEPA Awareness video](#). [Watch](#)



Signed into law in 1970, NEPA establishes a systematic and transparent process for environmental reviews. The Site-Wide Environmental Impact Statement (SWEIS) provides an operating envelope for LANL that complies with NEPA. Nearly all LANL work is reviewed to determine its NEPA coverage.

ES also oversees LANL's Environmental Management System, Pollution Prevention, the Natural Resource Damage Assessment, and the Long-Term Strategy for Environmental Stewardship and Sustainability.

1.6 Historical Map




1.7 LANL's RCRA Program

LANL's RCRA Program

A critical role of the Environmental Compliance Programs group is RCRA permitting and compliance. Because every LANL employee generates waste in some form, we are all responsible for the safe the Laboratory's waste management process. While much of this waste is ordinary office and laboratory trash, some of it requires special handling. Failure to handle any waste properly from the time of generation through ultimate disposal ("cradle to grave") can lead not only lead to hazardous working conditions, but could result in the loss of special waste handling permits vital to the Laboratory continuing operations.


The Waste Management Coordinator (WMC) Program provides direct waste management support and guidance to LANL facility operations through deployment of trained and qualified personnel to support routine waste disposition. Each group, division, or facility has a WMC who serves as the primary contact for waste management and pollution prevention/waste minimization efforts. The WMC is familiar with the organization's processes and procedures that generate waste and should be the first person you contact regarding waste management matters.



Recovery Act accelerates cleanup at LANL

1.8 Environmental Management System

Environmental Management System



Environmental Management System

Environmental Protection

All employees are with the environment. The Environmental Management System (EMS) is the primary method for achieving that expectation. EMS provides a systematic approach to assessing potential environmental impacts of LANL's activities, products, and services. Using a variety of online tools, EMS prioritizes improvements, measures results, and provides the basis for continuous improvement of environmental performance. SMEs from each program in the EPC Division review new or modified activities and projects to identify environmental compliance requirements.

1.9 Pollution Prevention and Sustainability

Pollution Prevention and Sustainability

As you plan and conduct your work at LANL, consider implementing the following pollution prevention/waste minimization techniques:

- conservation,
- source reduction,
- material substitution,
- waste segregation,
- reuse,
- recycling, and
- sustainable (green) acquisition.



Pollution prevention cash awards are given annually to employees whose submitted ideas are used to increase, recycling, reduce waste, or enhance the environmental impact of LANL work processes.

1.10 Cleanup and Remediation



1.11 What Lies Ahead

What Lies Ahead

In the next module, we will look at the Laboratory's Institutional Quality Assurance program and some important policies and procedures. But first, another knowledge check.

1.12 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

The Environmental Management System sets the expectation that each employee should

- ☐ keep a log of each piece of paper recycled
- ☐ leave environment protection to the professional environmentalists
- ☐ concentrate on completing a job without regard to the environment
- ☒ know how their work interacts with the environment

Correct	Choice
	keep a log of each piece of paper recycled
	leave environment protection to the professional environmentalists
	concentrate on completing a job without regard to the environment
X	know how their work interacts with the environment

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is ' know how their work interacts with the environment.'

Correct (Slide Layer)

The Environmental Management System sets the expectation that each employee should

- ☐ keep a log of each piece of paper recycled
- ☐ leave
- ☐ conce
- ☒ know

Correct

That's right! You selected the correct response.

Continue

Incorrect (Slide Layer)

The Environmental Management System sets the expectation that each employee should

- ☐ keep a log of each piece of paper recycled
- ☐ leave
- ☐ conce
- ☒ know

Incorrect

The correct answer is 'know how their work interacts with the environment.'

Continue

1.13 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

Each designated waste management coordinator

- ☐ removes all waste from the building
- ☐ inspects all waste products
- ☒ is the primary contact for waste management and pollution prevention/waste
- ☐ treats all hazardous waste generated

Correct	Choice
	removes all waste from the building
	inspects all waste products
X	is the primary contact for waste management and pollution prevention/waste
	treats all hazardous waste generated

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'is the primary contact for waste management and pollution prevention/waste.'

Correct (Slide Layer)

Each designated waste management coordinator

- ☐ removes all waste from the building
- ☐ inspects all waste products
- ☒ is the primary contact for waste management and pollution prevention/waste.
- ☐ treats all waste

Correct

That's right! You selected the correct response.

Continue

Incorrect (Slide Layer)

Each designated waste management coordinator

- ☐ removes all waste from the building
- ☐ inspects all waste products
- ☒ is the primary contact for waste management and pollution prevention/waste.
- ☐ treats all waste

Incorrect

The correct answer is 'is the primary contact for waste management and pollution prevention/waste.'

Continue

1.14 Knowledge Check

(Multiple Choice, 10 points, 1 attempt permitted)

**Failure to follow environmental laws, regulations,
and/or permits**

- ☐ can result in fines
- ☐ can result in closures
- ☐ has the potential for personal liability if the violation is deliberate
- ☒ all listed

Correct	Choice
	can result in fines
	can result in closures
	has the potential for personal liability if the violation is deliberate
X	all listed

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'all listed'.

Correct (Slide Layer)

Failure to follow environmental laws, regulations, and/or permits

- ☐ can result in fines
- ☐ can result in imprisonment
- ☐ has to be reported to the relevant authorities
- ☒ all listed

Correct
That's right! You selected the correct response.
Continue

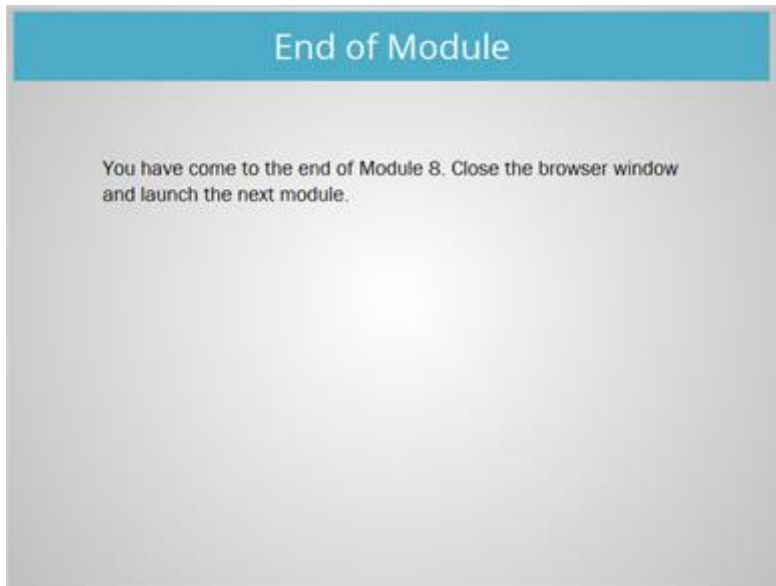
Incorrect (Slide Layer)

Failure to follow environmental laws, regulations, and/or permits

- ☐ can result in fines
- ☐ can result in imprisonment
- ☐ has to be reported to the relevant authorities
- ☒ all listed

Incorrect
The correct answer is 'all listed'.
Continue

1.15 End of Module



Notes:

2. Untitled Scene

2.1 Archaeological



Often archaeological sites are not marked or even obvious, but may be discernible as stones lying in a mound or a pattern, or as scatters of obsidian (volcanic stone) or pottery. When in doubt about any potentially historic site, contact the Laboratory's ES group. Avoid disturbing these areas in the course of your work and, per Laboratory policy, you must also follow all required permitting protocols and reviews for work projects that involve excavation or other operations near historic sites.

2.2 spotted owl



Another critical role of the Environmental Stewardship group is the protection of the Laboratory's biological resources, which include federally listed threatened or endangered species like the Jemez Mountains Salamander (*Plethodon neomexicanus*), Mexican Spotted Owl (*Strix occidentalis lucida*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), and Yellow-billed Cuckoo (*Coccyzus americanus*).

Notes:

2.3 historic building



A critical role of the Environmental Stewardship group is the protection of the Laboratory's 2000-plus identified cultural resources, which include archaeological sites, historic buildings, structures, and places sacred to Native American people. LANL has federally mandated responsibilities under the National Historic Preservation Act, Native American Graves Protection and Repatriation Act, Archaeological Resources Protection Act, and other pertinent historic preservation laws, regulations, and guidance.

2.4 salamander



Federally listed endangered species the Jemez Mountains Salamander (*Plethodon neomexicanus*).

LANL strives to balance growth and mission with proactive and effective management of biological resources. The goals are to minimize impacts to a variety of threatened, endangered, and sensitive species and their habitats while ensuring that all activities and operations comply with regulatory requirements for environmental protection.

Module Nine

1. Assurance Process

1.1 Introduction



Notes:

1.2 Introduction

What is Quality?

The American Society of Quality defines quality as "a product or service free of deficiencies; conformance to requirements." LANL defines quality as "a condition achieved when an item, service, or process meets or exceeds the user's requirements and expectations." Quality is meeting your customer's requirements and expectations.

LANL has contractual requirements to ensure quality in all operations. When quality standards are not met, tragic consequences often occur to humans, wildlife, or the environment.

Quality assurance organizations at LANL provide quality management, weapons quality engineering, dimensional inspection, quality assurance, project management, quality control, and independent assessment services to customers throughout the Laboratory. The Quality and Performance Assurance Division (QPA) Division has development and oversight responsibility for implementing LANL's Quality Assurance Program (QAP).



Notes:

1.3 The Laboratory's Quality Assurance Process

The Laboratory's Quality Assurance Process

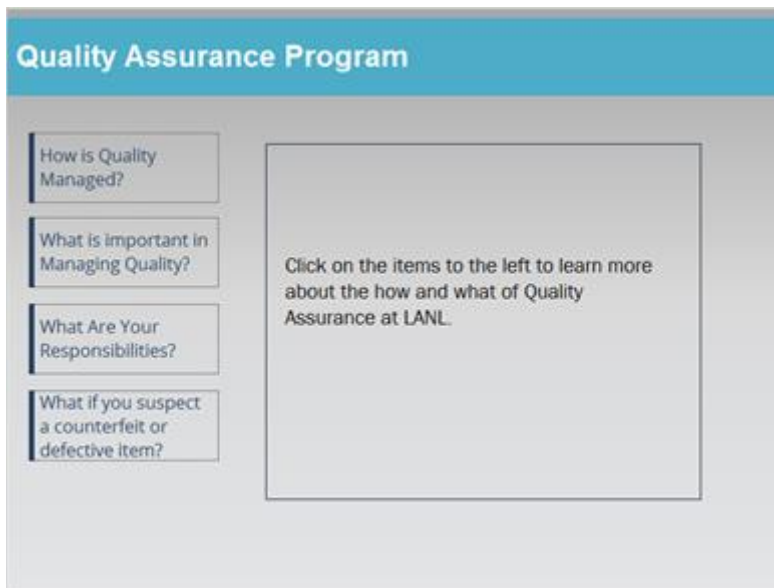
The Institutional QAP is the Laboratory's formal program of good practices for performing activities in a controlled manner and in accordance with technical standards and operational safety requirements. These practices are integrated in LANL's three-tiered requirements system:

- Governing Policies-high-level policies issued by the director that govern Laboratory work across the institution.
- Institutional Documents-system descriptions, program descriptions, procedures, and requirements notices issued by the Director's Office or directorates that apply to everyone in the institution or to broad cross-organizational functions.
- Local Documents-Functional series documents and local instructions that define processes, operations, or other information needed to perform certain work.

The Laboratory has many different types of work activities, all of which are governed under the umbrella of the Laboratory's QAP defined in SD330 LANL Quality Assurance Program. In addition to the Institutional QAP, these activities can have specialized sub-tier, documented quality programs, including research and development, weapons design and manufacturing, engineering, and construction.

Notes:

1.4 Quality Assurance Program



Notes:

Tab1 lyr (Slide Layer)

Quality Assurance Program

How is Quality Managed?	<p>Quality is managed at the Laboratory by</p> <ul style="list-style-type: none">- planning work to ensure that it is performed by qualified workers using approved processes, codes, and standards to achieve the specified product;- conducting work only after risks to workers, the public, and the environment are formally analyzed and the risks are reduced as practical;- reporting abnormal events and occurrences; and- assessing work processes and results to improve process effectiveness and product quality. <p>This process is shown in the ISM cycle taught in the Laboratory's safety and security classes.</p>
What is important in Managing Quality?	
What Are Your Responsibilities?	
What if you suspect a counterfeit or defective item?	

Tab 2 lyr (Slide Layer)

Quality Assurance Program

How is Quality Managed?	<p>Important criteria in the management of quality at the Laboratory include</p> <ul style="list-style-type: none">- the clear identification of roles, responsibilities, and interfaces;- workers who are trained and qualified;- the aggressive identification and correction of problems;- the use of current resource documents and well-maintained records;- the implementation of work policies, plans, and procedures;- clearly specified design requirements;- the effective communication of requirements to suppliers;- the requirement of inspections, tests, and verification documents;- the management evaluation of progress against objectives;- the conducting of audits and assessments to ensure compliance; and- the evaluation, characterization, and management of software to ensure compliance.
What is important in Managing Quality?	
What Are Your Responsibilities?	
What if you suspect a counterfeit or defective item?	

Tab 3 lyr (Slide Layer)

Quality Assurance Program

How is Quality Managed?

What is important in Managing Quality?

What Are Your Responsibilities?

What if you suspect a counterfeit or defective item?

The success of the Institutional QAP depends on you. Although the Institutional Quality Group (QPA-IQ) provides you with tools and support, quality is actually your job. As a Laboratory worker, you must

- complete training required to perform your work;
- analyze and manage hazards and risks in your daily work;
- follow policies, plans, and procedures approved by your management;
- assess your work processes and products to promote improvement; and
- have a questioning attitude. If you see something that may not meet quality requirements, bring it to the attention of your management.

For more information, see the Quality Services website under the Service tab of the Laboratory's home page.

Tab 4 lyr (Slide Layer)

Quality Assurance Program

How is Quality Managed?

What is important in Managing Quality?

What Are Your Responsibilities?

What if you suspect a counterfeit or defective item?

Suspect/counterfeit items (S/Ci) pose immediate and potential threats to the safety of DOE and contractor workers, the public, and the environment. Failure of a safety system due to an S/Ci could have security implications at DOE facilities. Counterfeit parts used in a system can injure or kill when the components or systems fail as a result of the use of counterfeit materials. Fortunately, no major accidents or any loss of life have resulted from S/Cis within the DOE complex. However, over the years S/Cis are known to have entered the procurement system(s) at DOE sites. Left unidentified and uncorrected these items present potential risks.

The immediate identification and reporting of S/Ci is critical because S/Ci not only negatively impacts safety, but it can damage the economy by victimizing legitimate manufacturers and suppliers. At the very least S/Cis causes loss of customer confidence and compounds product liability issues and adjudication.

If, in the course of your job, you suspect you have a counterfeit or defective item, you should:

- Stop what you are doing-do not use the item in question. Collect the item and any similar items and segregate them.
- Contact your line manager and let him/her know you have a suspect/counterfeit item.
- Contact the S/Ci Coordinator or the S/Ci Help Desk to report the issue.

1.5 Governance and Policies

Governance and Policies

The Laboratory operates under a federal management and operations contract with the DOE/NNSA called the Prime Contract. The contract is performance based with mission deliverables and operational requirements. A Requirements Management System <https://rms.lanl.gov/RMS/> identifies and documents the down flow of contractual requirements from the Governing Policies mentioned earlier in this module. The Laboratory has developed a requirements system and hierarchy of institutional documents to help employees execute work consistently and efficiently. These institutional documents include system descriptions (SDs), program descriptions (PDs), and procedures (P). LANL's policies and procedures can be found on the Policy Office link of the Lab's home page.

In the next few screens, we will talk about some of the Laboratory's policies that might affect you. LANL employment policies generally do not apply to contract workers. If you are a contract worker, you should talk to your employer for information about the terms and conditions of your contract.

1.6 Governance and Policies

Governance and Policies

- Nondiscrimination and Equal Opportunity
- Managing Diversity
- Conflict of Interest
- Gifts, Entertainment, Favors, and Kickbacks
- Privileged Information

Click on the items to the left to learn more about the how and what of Quality Assurance at LANL.

Notes:

Tab1 lyr (Slide Layer)

Governance and Policies

Nondiscrimination and Equal Opportunity	<p>LANL does not engage in the discrimination against or harassment of any person employed by or seeking employment with the Laboratory on the basis of race; color; national origin; ancestry; religion; age; sex; gender identity; sexual orientation or preference; marital status or spousal affiliation; physical or mental disability; medical conditions (including, but not limited to, human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), cancer-related illnesses, and illnesses resulting from genetic characteristics); pregnancy (including childbirth and medical conditions related to pregnancy and childbirth); status as a disabled veteran, recently separated veteran, other protected veteran, or Armed Forces service medal veteran; genetic information with respect to applicant or employee; and citizenship within the limits imposed by federal laws or regulations.</p> <p>Equal employment opportunity and nondiscrimination applies to all Laboratory employment practices, including recruitment, selection, promotion, transfer, merit increase, salary management, training and development, and separation.</p> <p>Because harassment keeps workers from working to their full potential, it will not be tolerated. Anyone engaging in harassment at LANL can lose their job.</p>
Managing Diversity	
Conflict of Interest	
Gifts, Entertainment, Favors, and Kickbacks	
Privileged Information	

Tab 2 lyr (Slide Layer)

Governance and Policies

Nondiscrimination and Equal Opportunity	<p>LANL is committed to creating and maintaining a work environment in which all employees can reach their full potential while pursuing the Laboratory's mission and objectives. For more information about LANL's diversity policy, contact the Human Resources Office of Diversity and Strategic Staffing (HR-ODSS) at odss@lanl.gov.</p> <p>Affirmative Action</p> <p>LANL is committed to applying good-faith efforts to achieve the prompt and full use of minorities, women, persons with disabilities, and covered veterans in all segments of the workforce. These efforts conform to current legal and regulatory requirements and are consistent with LANL standards for quality and excellence.</p> <p>For questions about nondiscrimination, equal opportunity, or affirmative action, refer to PD712, <i>Equal Employment Opportunity, Affirmative Action, and Diversity</i>.</p>
Managing Diversity	
Conflict of Interest	
Gifts, Entertainment, Favors, and Kickbacks	
Privileged Information	

Tab 3 lyr (Slide Layer)

Governance and Policies

Nondiscrimination and Equal Opportunity	<p>LANL seeks to avoid conflict-of-interest situations whenever possible. These situations may involve either an actual conflict of interest or the appearance of one. See PD801, <i>Ethics Program</i>; P832-1, <i>Conflict of Interest: Technology Transfer</i>; and P723, <i>Conflicts of Interest</i>.</p> <p>For more information, see the <i>Quality Services</i> website under the <i>Service</i> tab of the <i>Laboratory's</i> home page.</p> <p>Outside Employment</p> <p>If you plan to work at another job while employed at the Laboratory or during a leave of absence, you must have your group leader's approval. Some restrictions may be required to avoid a conflict of interest. You may not participate in outside employment if a conflict of interest exists or appears to exist.</p> <p>Example</p> <p>John wants to teach a physics course for a local university. Before he may begin teaching, he must complete Form 701, <i>Outside Activity Permission Request</i>, to get approval from his group- and division-level managers and LANL's conflict of interest officer. If teaching does not interfere with his LANL job and no conflict of interest exists, approval may be given.</p> <p>To help demonstrate compliance with requirements and to uphold the highest level of ethical standards, each LANL employee is required to complete and submit a <i>Conflict of Interest Certificate</i> (Form 1990).</p>
Managing Diversity	
Conflict of Interest	
Gifts, Entertainment, Favors, and Kickbacks	
Privileged Information	

Tab 4 lyr (Slide Layer)

Governance and Policies

Nondiscrimination and Equal Opportunity	<p>You must not solicit or accept a gift, entertainment, favor, gratuity, loan, or other item of value because of your position at the Laboratory, nor should you offer anyone a gift on a similar basis. However, you may accept unsolicited advertising novelties or ordinary business courtesies, such as a modest business lunch.</p> <p>Example</p> <p>A computer company wants to send Julie, a manager, a complimentary laptop computer in the hope that she will favor the company for future purchases. Julie may not accept the equipment.</p> <p>See P722, <i>Business Gifts and Gratuities</i>, and P815, <i>Allowable Costs</i>.</p>
Managing Diversity	
Conflict of Interest	
Gifts, Entertainment, Favors, and Kickbacks	
Privileged Information	

Tab 5 lyr (Slide Layer)

Governance and Policies

Nondiscrimination and Equal Opportunity	<p>You may not use proprietary data or privileged information obtained through LANS employment for personal purposes, for favoritism in purchasing goods or services, or in any other unauthorized manner.</p> <p>Example</p> <p>Marie owns stock in a laser company that supplies equipment to LANL. She knows that her group is planning to buy many expensive lasers for a new project. She releases technical information that gives the company a favored position in the bidding process. Marie has used <i>privileged</i> information for personal gain.</p> <p>Contracts</p> <p>LANL employees must follow specific policies and procedures when procuring or purchasing goods or services. To obtain goods or services from an outside supplier, call or e-mail the Acquisition Services Management Division for advice on how to process a purchase request through procurement. You may contact a Procurement Help Desk (PHD) representative at phdhelp@lanl.gov. Questions about the use of purchase cards and LANL's Purchase Card Program may also be directed to the PHD.</p>
Managing Diversity	
Conflict of Interest	
Gifts, Entertainment, Favors, and Kickbacks	
Privileged Information	

1.7 Using Government Property

Using Government Property

All Laboratory facilities, grounds, supplies, and equipment, including surplus or salvage material, are US government property and subject to federal laws and contract provisions that regulate their use and protection. See P821, *Government Personal Property*, and P821-3, *Private Personal Property*.

Click on the buttons below

Your Responsibilities	Smoking
Misusing Government Property	Workplace Violence
Political Activities	Harassment
Gambling at Work	Reporting Improper Activities

Notes:

1.8 Knowledge check

(Multiple Choice, 0 points, 1 attempt permitted)

Institutional Quality Assurance at the Laboratory is

- ☐ a system for managing quality assurance personnel
- ☐ the responsibility of the Quality Assurance Champion
- ☒ a program of good practices for performing activities
- ☐ a way of ensuring that you report time correctly

Correct	Choice
	a system for managing quality assurance personnel
	the responsibility of the Quality Assurance Champion
X	a program of good practices for performing activities
	a way of ensuring that you report time correctly

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'a program of good practices for performing activities.'

Correct (Slide Layer)

Institutional Quality Assurance at the Laboratory is

- ☐ a system for managing quality assurance personnel
- ☐ the responsibility of the Quality Assurance Champion
- ☒ a program of good practices for performing activities
- ☐ a way of managing quality assurance personnel

Correct

That's right! You selected the correct response.

Continue

Incorrect (Slide Layer)

Institutional Quality Assurance at the Laboratory is

- ☐ a system for managing quality assurance personnel
- ☐ the responsibility of the Quality Assurance Champion
- ☒ a program of good practices for performing activities
- ☐ a way of managing quality assurance personnel

Incorrect

The correct answer is 'a program of good practices for performing activities.'

Continue

1.9 Knowledge check

(Multiple Choice, 0 points, 1 attempt permitted)

Quality is managed by

- ☒ planning work, reducing risk, and reporting occurrences
- ☐ conducting work before risks are formally analyzed
- ☐ contracting work to service suppliers and vendors
- ☐ following casual work-planning methods

Correct	Choice
X	planning work, reducing risk, and reporting occurrences
	conducting work before risks are formally analyzed
	contracting work to service suppliers and vendors
	following casual work-planning methods

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'planning work, reducing risk, and reporting occurrences.'

Correct (Slide Layer)

Quality is managed by

- ☒ planning work, reducing risk, and reporting occurrences
- ☐ conducting work before risks are formally analyzed
- ☐ contra
- ☐ followi

Correct

That's right! You selected the correct response.

Continue

Incorrect (Slide Layer)

Quality is managed by

- ☒ planning work, reducing risk, and reporting occurrences
- ☐ conducting work before risks are formally analyzed
- ☐ contra
- ☐ followi

Incorrect

The correct answer is 'planning work, reducing risk, and reporting occurrences.'

Continue

1.10 Knowledge check

(Multiple Choice, 0 points, 1 attempt permitted)

You can help support quality improvements by

- ☐ entering your time every week
- ☒ having a questioning attitude
- ☐ following traffic regulations
- ☐ recycling newspapers

Correct	Choice
	entering your time every week
X	having a questioning attitude
	following traffic regulations
	recycling newspapers

Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

The correct answer is 'planning work, reducing risk, and reporting occurrences.'

Correct (Slide Layer)

You can help support quality improvements by

- ☐ entering your time every week
- ☒ having a questioning attitude
- ☐ following
- ☐ recycling

Correct

That's right! You selected the correct response.

Continue

Incorrect (Slide Layer)

You can help support quality improvements by

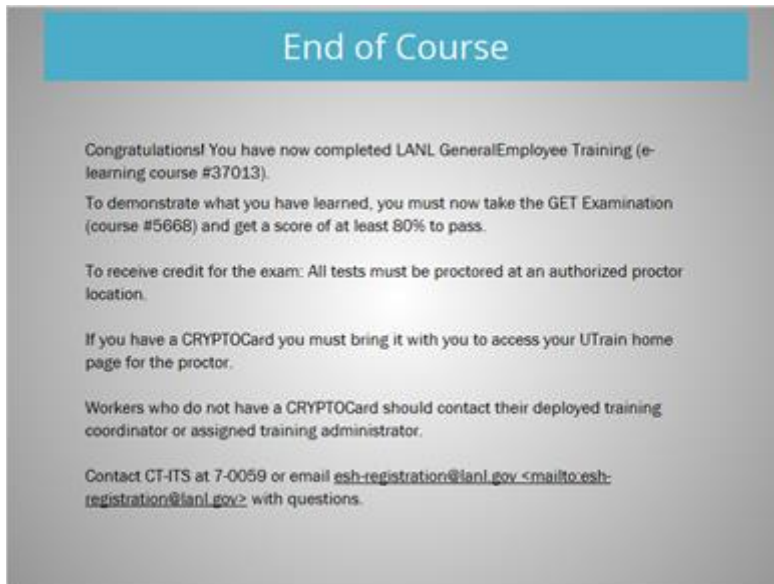
- ☐ entering your time every week
- ☒ having a questioning attitude
- ☐ following
- ☐ recycling

Incorrect

The correct answer is 'planning work, reducing risk, and reporting occurrences.'

Continue

1.11 End of Course

A presentation slide titled "End of Course" with a blue header bar. The slide contains several paragraphs of text providing instructions and contact information for the end of the LANL General Employee Training course.

End of Course

Congratulations! You have now completed LANL General Employee Training (e-learning course #37013).

To demonstrate what you have learned, you must now take the GET Examination (course #5668) and get a score of at least 80% to pass.

To receive credit for the exam: All tests must be proctored at an authorized proctor location.

If you have a CRYPTOCard you must bring it with you to access your UTrain home page for the proctor.

Workers who do not have a CRYPTOCard should contact their deployed training coordinator or assigned training administrator.

Contact CT-ITS at 7-0059 or email esh-registration@lanl.gov <<mailto:esh-registration@lanl.gov>> with questions.

Notes:

2. Property

2.1 Your Responsibilities

Using Government Property

Your Responsibilities

You may use government property, including vehicles, only for official use. To drive a government vehicle, you must possess a valid driver's license, be at least 18 years of age, and have no special driving restrictions (such as an interlock system). You are responsible for the proper use, control, and physical protection of all government property. You will be required to sign an accountability statement that lists the property-numbered items assigned to you. By signing this statement, you agree to take responsibility for the items listed on this statement.

The property administrator (PA) for your organization is available to assist you with all property-related issues, such as transporting government property only for official use. All property transported or shipped to a foreign country must be approved first by Export Control.

If government property is lost or stolen, contact your PA and the LANL Investigative Services Team within 24 hours. Loss of or damage to government property resulting from deliberate or negligent acts may result in disciplinary action, up to and including termination. Thefts and misuse of government resources are federal offenses subject to criminal prosecution and may also result in disciplinary action, up to and including termination.

2.2 Political Activities

Political Activities


You may discuss politics at LANL, as long as the discussion does not interfere with your work and you make it clear that you are giving your opinion and not a position or policy of the Laboratory.

Your participation in political activities on your own time is your business. However, you may not campaign, solicit, or accept political contributions on LANL premises.

Employees may wear campaign buttons and discuss their political views with each other; however, overt politicking must be kept off Laboratory premises. The following are considered to be political campaigning:

1. handing out campaign literature, buttons, or bumper stickers for your favorite candidate or cause; and
2. asking other workers for campaign donations.

For more information, see P725, *Political Activities and Interactions with Elected Officials*.



2.3 Gambling at Work

Gambling at Work

You may not gamble on Laboratory premises, nor may you use Laboratory equipment, including computers, to gamble. The following scenarios are examples of gambling:

- coordinating a football pool program at work;
- conducting or taking part in an office lottery;
- playing a card game for money during your lunch hour on LANL property; or
- selling or buying a raffle ticket (even for a good cause).

See P731, *Discipline*.

2.4 Workplace Violence

Workplace Violence

Violent behavior and threats of violence are unacceptable conduct and are prohibited at the Laboratory. See P724, *Workplace Violence*, for more information. Examples of workplace violence include

- hostile or aggressive physical contact with another person,
- a statement or body gesture that threatens harm to another person, or
- any conduct that would cause a reasonable person to believe that he or she is under threat of harm.

Call 911 if you believe that immediate action is required for a life- or injury-threatening situation.

2.5 Reporting Improper Activities

Reporting Improper Activities

LANL encourages workers to bring forward good-faith concerns of an improper activity or of a situation that constitutes a threat to security, health, safety, the environment, or quality and to have those concerns addressed in an independent, objective manner. LANS investigates reports of improper activities in a confidential manner to protect workers from retaliation for reporting such activities.

You may report allegations of improper activities by

- addressing workplace concerns with your manager;
- calling LANL's Employee Concerns Program (ECP) 24-hour helpline at 5-9999;
- sending an e-mail to ecp@lanl.gov;
- sending a written concern to MS D449, Attention: Helpline; or
- calling a meeting with EA-Ethics personnel, who are located at TA-00, Building 787, 125 Central Park Square, 1st floor.

See P793, *Employee Concerns*.

2.6 Harassment

Harassment

LANL is committed to taking reasonable steps to provide a work environment that is free from all forms of harassment on the basis of sex or any other legally protected category.

Sexual harassment is unacceptable conduct and prohibited at LANL. Unwelcome sexual advances, requests for sexual favors, and other behavior or comments of a sexual nature that affect employment status or work performance or create a hostile work environment constitute sexual harassment. The display of sexually oriented visuals or images can also constitute sexual harassment and is prohibited.

The Laboratory prohibits sexual relations between a **supervisor** and a **subordinate**, regardless of whether the relationship constitutes sexual harassment or is consensual. LANL also prohibits sexual relations between a mentor and a mentee who are participants in a formal Laboratory mentorship program.

See P721, *Harassment, Including Sexual Harassment*.

2.7 Smoking

Smoking

You may not smoke, which includes using electronic cigarettes, in government vehicles, inside Laboratory buildings and inside offsite space leased by LANL. Smoking is also prohibited within 25 feet (horizontal and vertical) of doors, air intake vents, or operable windows of LANL buildings.

Smoking Areas

Facility Operations Directors (FODs) or other responsible line managers (RLMs) may provide designated smoking areas outside of LANL buildings or LANL-leased space.

- Designated smoking areas must be outfitted with ash receptacles and may include benches, tables, or other amenities.
- FODs may impose seasonal smoking restrictions in designated smoking areas if needed to minimize wildfire hazards.
- Smoking in areas near Laboratory-leased space or in areas occupied by LANL under other types of agreements is subject to the requirements of the property owner or landholder.
- Smoking is allowed at the Laboratory outside of buildings and in undeveloped areas, unless expressly prohibited.
- Smoking is allowed in covered parking structures, unless otherwise prohibited.
- Smokers may not dispose of embers, cigarette butts, matches, or other trash on the ground or in open water (streams, storm runoff, puddles, or landscaping features).
- Smokers may smoke in privately owned vehicles, if done in areas where smoking is not otherwise prohibited, but you may not flick ashes, embers, cigarette butts, or other smoking materials out of vehicles while at the Laboratory.

2.8 Misusing Government Property

Misusing Government Property

The following scenarios are examples of misuse of government property or resources:

- using LANL fax machines to advertise or solicit for a private business;
- using LANL mail services for personal mail;
- using government equipment to produce mementos, such as those for birthdays and retirements;
- taking home LANL supplies or equipment that your group no longer needs;
- using LANL computers to access non-work-related sites on the Internet, including those for pornography, gambling, and private business concerns;
- making illegal copies of computer software;
- using a government vehicle for non-work-related trips; and
- using LANL e-mail or mailing lists to send inappropriate material (sexually explicit, defamatory, etc.) to others..

Employees are generally given latitude to access the Internet on an incidental basis, such as to review the news.

LANL telephones, including cell phones, are for official business use. Make personal calls only when you must, and keep them brief. Avoid making personal long-distance or international calls.